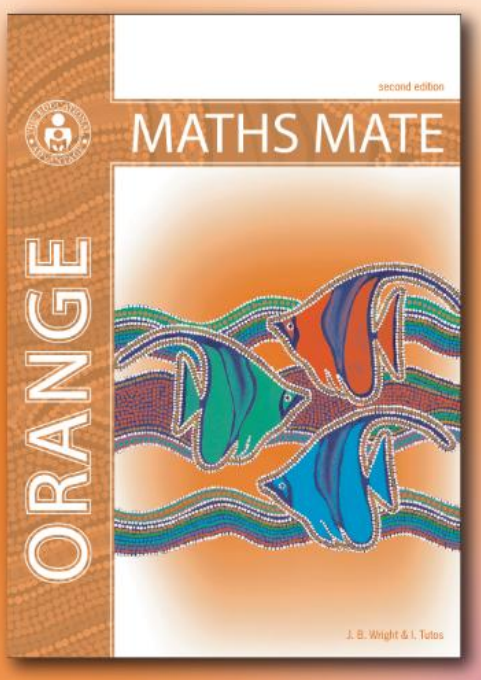
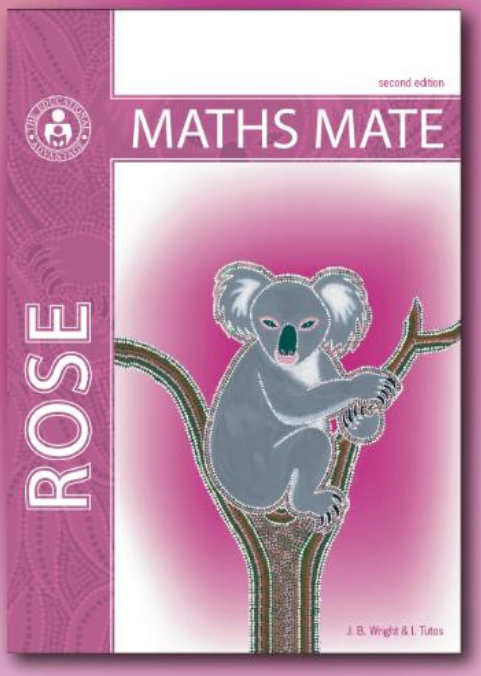
SKILL BUILDER

second edition

MATHS MATE





J. B. Wright & I. Tutos

MATHS MATE

Skill Builder Orange/Rose

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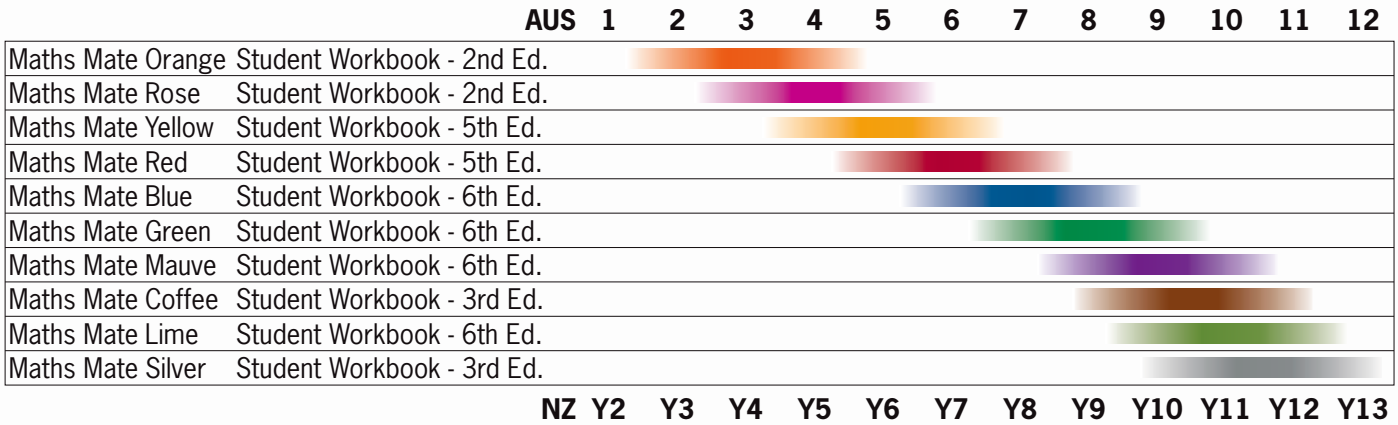
Maths Mate materials available for use

STUDENT WORKBOOKS

GRADE / YEAR LEVEL INDICATOR



TEACHER RESOURCES

Maths Mate Teacher Resources (for all year levels, PDF format)

SKILL BUILDERS

Skill Builder Orange/Rose - 2nd Ed.	PDF format
Skill Builder Yellow/Red - 5th Ed.	PDF format
Skill Builder Blue/Green - 6th Ed.	PDF format
Skill Builder Mauve/Lime - 6th Ed.	PDF format

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FORWARD

Why use Skill Builders?

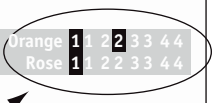
Too often, through the teaching, learning and assessment process, teachers identify weaknesses and gaps in student learning but the constraints of the classroom severely limit remediation opportunities.

The Maths Mate Skill Builder series was prepared in response to requests from teachers and parents who want an easy but effective way to help students who identify skill deficiencies using the Maths Mate Program, and are motivated to do something about them.

The Maths Mate record keeping sheets found at the start of each term in each Student Pad (and on the Teacher Resources ~ Record Keeping Sheets, pages 1 to 4) enable students to find out what they know and what they still need to learn and practise.

The Skill Builders extensively target through instruction and practice, all skills within the related Maths Mate Program except the problem solving questions. The Problem Solving Hints & Solutions (see Teacher Resources ~ Problem Solving Hints & Solutions) can be used by teachers to develop students' problem solving skills. The Skill Builders also contain a Glossary of important facts and reference material that will provide instant help when students present with difficulties.

Background to the design of Maths Mate and Skill Builders



Any question on the Maths Mate sheets is part of a set of 4 similar questions in the term. For example, consider sheets 1, 2, 3 and 4 in Maths Mate Orange term 1. Question 10 on each sheet is similar in design, content and degree of difficulty. This grouping of question style is also true of the next set of four sheets and so on. Thus the Maths Mate tests made available in the Teacher Resources (see Teacher Resources ~ Test Masters, pages 1 to 32 and Test Answers, pages 1 to 32) also reflect this grouping of question style and substance. Generally too, the Skill Builders can be linked to each set of 4 similar questions. These links are identified in the grid at the title of each skill. The grid shown here for example, would relate a skill to questions in the first 4 sheets of MM Orange term 1, the last 4 sheets of MM Orange term 2 and the first 4 sheets of MM Rose term 1. Once understood, these links will be helpful to students in their selection of Skill Builders and to you in your allocation of Skill Builders to students.

On each Maths Mate worksheet, questions 1 through to 21 get progressively harder. (Refer - How to use the Skill Builders, page iv)

Suggestions for the preparation and organisation of Skill Builders

Teachers can either direct students to their digital copies or print copies of particular pages for students. Rather than photocopying Skill Builders one at a time, you may find it helpful to set up a file in a central area that contains perhaps five copies of each Skill Builder. In this way you will save time and be prepared in advance. Students should be reminded that the Glossary is a valuable resource that can be added to. The Glossary too can be photocopied for students as a resource.

How you can help

We are confident that your students will be rewarded for the effort you have made in making these worksheets available to them. As with any program, however, there is always room for improvement and we place great value in feedback from people like yourself. Please, if you have any suggestions at all, contact us.

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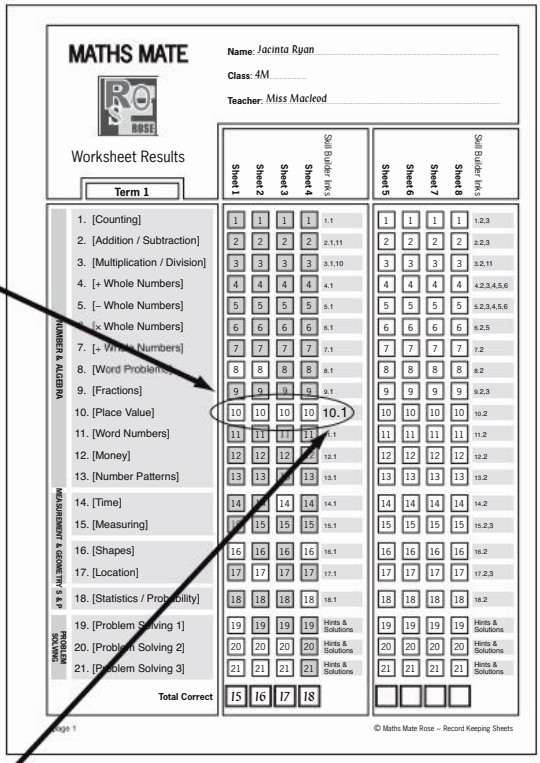
HOW TO USE MATHS MATE SKILL BUILDERS

1. Determine which Maths Mate questions pose a difficulty

If a student gets one or more incorrect answers, represented by one or more successive unshaded boxes on their worksheet results sheet, then that question requires a Skill Builder.

For example, question 10 in Sheets 1, 2, 3 and 4 is not shaded, so Skill 10.1 from Skill Builder 10 needs to be handed to the student.



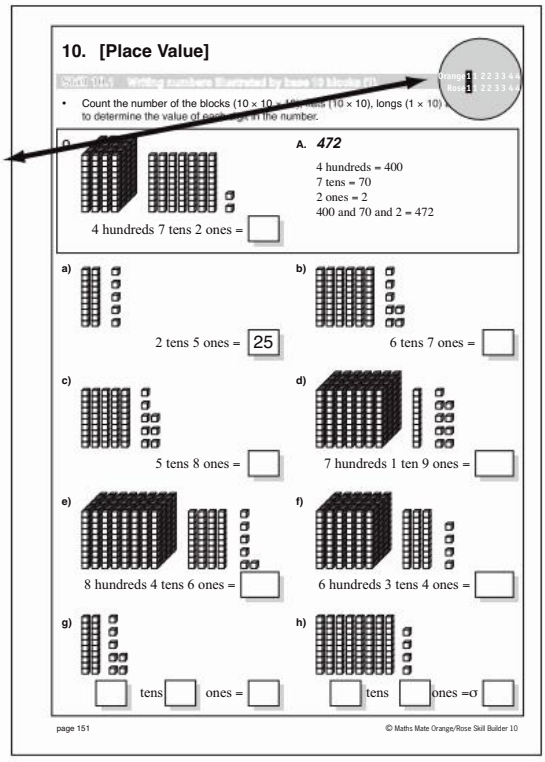
2. Find the relevant Skill Builder on the Maths Mate worksheet results sheet

Check across the question that is posing difficulties on the worksheet results sheet to find the list of skills within the Skill Builder that are most relevant to that question.

Obtain a copy of one or all of the skills listed for that question (pages 1 to 284). You can also double check with the grid at the right of each skill title, that the chosen skill is appropriate.

Remember, students should work through the skills in order. The skills where possible are arranged in increasing degree of difficulty.

Be aware that some skills may require the knowledge of previous skills, so when a student has several areas of weakness, they should work on the lowest numbered skill builders first. For example, a student struggling with Q8 and Q5 will need to build skills required for Q5 before they can improve Q8.



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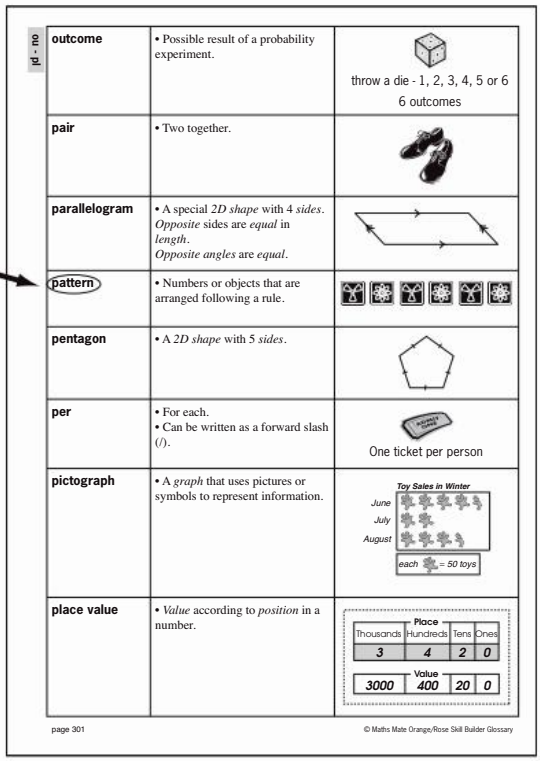
3. Look up any unknown terms in the Skill Builder Glossary

The Glossary (pages 285 to 312) is more than just a list of definitions. It contains a wealth of relevant information that may help the students to better understand the question at hand. Weaker students may find that referring to a copy of the Glossary, and even building on it, is a helpful strategy for improving their overall mathematical competency.

For example, a student might need to look up the word "pattern" before attempting to complete Skill 13.1



outcome	• Possible result of a probability experiment.	throw a die - 1, 2, 3, 4, 5 or 6 6 outcomes
pair	• Two together.	
parallelogram	• A special *2D shape* with 4 *sides*. *Opposite* sides are *equal* in *length*. *Opposite angles* are *equal*.	
pattern	• Numbers or objects that are arranged following a rule.	
pentagon	• A *2D shape* with 5 *sides*.	
per	• For each. • Can be written as a forward slash (/).	One ticket per person
pictograph	• A *graph* that uses pictures or symbols to represent information.	Toy Sales in Winter June July August each = 50 toys
place value	• *Value* according to *position* in a number.	Place: Thousands, Hundreds, Tens, Ones 3, 4, 2, 0 Value: 3000, 400, 20, 0

page 301 © Maths Mate Orange/Rose Skill Builder Glossary

4. Complete the relevant Skill Builder

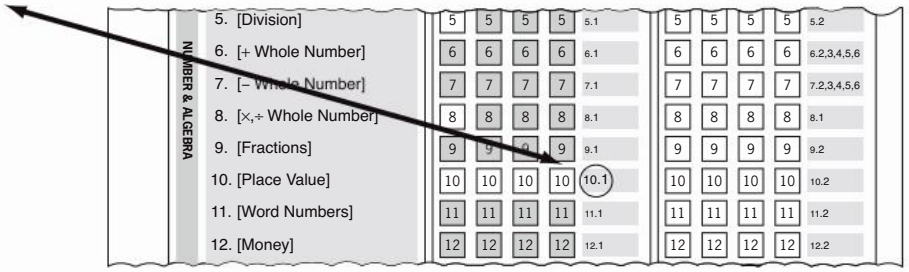
Work through the examples given for that skill, and complete the exercises.

There are many techniques or methods that can be used to teach the same basic skills, even something as simple as adding 7 and 9. It is good for a student to be given a range of alternatives appropriate for each skill but space restrictions make this impossible. These sheets often suggest an approach that may be different to a student's past experience. If a student feels more comfortable with his current technique, that is fine. In most cases it is the end result that counts.

It is possible to take a very weak student back to a Skill Builder from a lower level if this is necessary. It is also possible to use a higher level book for students to have further practice if required.

5. Correct the relevant Skill Builders from the Skill Builder answer sheets (from page 323)

6. Circle the completed skill numbers on the Maths Mate worksheet results sheet



NUMBER & ALGEBRA

5. [Division]	5	5	5	5	5.1	5	5	5	5	5.2
6. [+ Whole Number]	6	6	6	6	6.1	6	6	6	6	6.2,3,4,5,6
7. [– Whole Number]	7	7	7	7	7.1	7	7	7	7	7.2,3,4,5,6
8. [×,÷ Whole Number]	8	8	8	8	8.1	8	8	8	8	8.1
9. [Fractions]	9	9	9	9	9.1	9	9	9	9	9.2
10. [Place Value]	10	10	10	10	10.1	10	10	10	10	10.2
11. [Word Numbers]	11	11	11	11	11.1	11	11	11	11	11.2
12. [Money]	12	12	12	12	12.1	12	12	12	12	12.2

7. Go back and repeat previous Maths Mate questions

After completing a Skill Builder, students should be encouraged to go back and attempt again those particular questions on the recently completed Maths Mate worksheets.

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MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description
1.		**[Counting]** **1**
	1.1	Counting objects.
	1.2	Investigating number sequences by finding numbers before and after a number.
	1.3	Counting forwards and backwards by 1s.
	1.4	Counting forwards by 2s, 3s, 4s and 5s.
	1.5	Counting forwards and backwards by 10s, 100s and 1000s.
	1.6	Investigating number sequences by skip counting.
	1.7	Counting forwards by numbers from 1 to 9 from a larger number.
	1.8	Recognising odd and even numbers.
	1.9	Counting forwards by numbers from 1 to 9 using a number line.
	1.10	Counting forwards by 6s, 7s, 8s and 9s.
	1.11	Counting forwards and backwards by a number greater than 1, from a larger number.
2.		**[Addition / Subtraction]** **15**
	2.1	Adding the numbers from 1 to 10 represented by pictures, by counting on.
	2.2	Recognising pairs of numbers that add to 10.
	2.3	Adding numbers by first making 10.
	2.4	Recognising pairs of numbers that add to 20.
	2.5	Adding 10 and 100 to a number by using base 10 blocks.
	2.6	Adding the numbers from 1 to 10 by counting forwards on a number line.
	2.7	Adding numbers by using base 10 blocks.
	2.8	Completing addition number sentences by using base 10 representation.
	2.9	Modelling the commutative property for addition on a number line.
	2.10	Adding 2-digit numbers by trading with base 10 blocks.
	2.11	Subtracting the numbers from 1 to 10 represented by pictures, by counting back.
	2.12	Subtracting 1-digit and 2-digit numbers by using base 10 blocks, no trading.
	2.13	Subtracting the numbers from 1 to 10 by counting backwards on a number line.
	2.14	Subtracting 1-digit and 2-digit numbers by first building up to the nearest multiple of 10 on a number line.
	2.15	Subtracting the numbers from 1 to 10 from 2-digit numbers with smaller unit values, by trading with base 10 blocks.
	2.16	Relating addition and subtraction facts.
	2.17	Modelling facts for subtraction on a number line.

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MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description

3. [Multiplication / Division] 47

3.1 Recognising and counting groups of equal numbers of objects.
3.2 Counting equal groups and objects in a group.
3.3 Multiplying the numbers from 1 to 10 by using arrays.
3.4 Multiplying the numbers from 1 to 10 by using repetitive addition.
3.5 Doubling a number.
3.6 Multiplying by 10 and 100 by using base 10 blocks.
3.7 Multiplying the numbers from 1 to 10 by using multiplication tables.
3.8 Modelling the commutative property for multiplication by using arrays.
3.9 Modelling multiplication of numbers greater than 12 by a single digit, by using base 10 blocks.
3.10 Dividing objects into equal groups.
3.11 Modelling division by arranging objects in equal groups, by using pictures.
3.12 Modelling division by arranging objects in equal groups, by using arrays.
3.13 Modelling division by the numbers from 1 to 10, by using repetitive subtraction.
3.14 Modelling division by arranging an equal number of objects into groups, by using arrays.
3.15 Modelling division by the numbers from 1 to 10, by using arrays.
3.16 Modelling division by the numbers from 1 to 12 with remainder, by using arrays.
3.17 Relating multiplication and division facts by using arrays.

4. [+ Whole Numbers] 79

4.1 Understanding different terms used for addition.
4.2 Adding the numbers from 1 to 10 by counting on, using your fingers or pencil marks.
4.3 Adding the numbers from 1 to 10 by counting forwards on a number line.
4.4 Adding the numbers from 1 to 10 by using base 10 blocks.
4.5 Adding the numbers from 1 to 10 by first making 10 or the nearest multiple of 10.
4.6 Adding 10.
4.7 Adding two 2-digit numbers by separately adding the tens and the units, and then adding the results.
4.8 Adding multi-digit whole numbers by using the standard algorithm, no carry.
4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry.
4.10 Finding the unknown number in an addition number sentence.

5. [– Whole Numbers] 91

5.1 Understanding different terms used for subtraction.
5.2 Subtracting the numbers from 1 to 10 by counting backwards, using your fingers or pencil marks.
5.3 Subtracting the numbers from 1 to 10 by counting backwards on a number line.
5.4 Subtracting the numbers from 1 to 10 from 2-digit numbers, by first moving backwards to the nearest 10.
5.5 Subtracting the numbers from 1 to 10 from 2-digit numbers, by trading with base 10 blocks.
5.6 Subtracting the numbers from 1 to 10 by first building up to the nearest 10 on a number line.
5.7 Subtracting two 2-digit numbers by separately subtracting the units and tens, and then adding the results.
5.8 Subtracting multi-digit whole numbers by using the standard algorithm, no carry.
5.9 Subtracting multi-digit whole numbers by using the standard algorithm, with carry.
5.10 Finding the unknown number in a subtraction number sentence.

6. [× Whole Numbers] 103

6.1 Understanding different terms used for multiplication.
6.2 Multiplying the numbers from 1 to 10 by 2 or 4.
6.3 Multiplying the numbers from 1 to 10 by 3.
6.4 Multiplying the numbers from 1 to 10 by 5.
6.5 Multiplying the numbers from 1 to 10 by 6, 7 or 8.
6.6 Multiplying the numbers from 1 to 10 by 9.
6.7 Multiplying the numbers from 1 to 10 by 10 or a multiple of 10.
6.8 Multiplying two 1-digit numbers by using the standard algorithm.
6.9 Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm and showing the partial sums.
6.10 Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm.
6.11 Multiplying three 1-digit numbers.

7. [÷ Whole Numbers] 117

7.1 Understanding different terms used for division.
7.2 Dividing by 1 or 10.
7.3 Dividing by whole numbers from 1 to 10 by using arrays.
7.4 Dividing by 1-digit numbers by using the standard algorithm.
7.5 Finding the unknown number in a division number sentence.

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MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description

8. [Word Problems] 125

8.1 Solving word problems using addition.
8.2 Solving word problems using subtraction.
8.3 Solving word problems using multiplication.
8.4 Solving word problems using division.

9. [Fractions] 129

9.1 Recognising fractions as part of a whole.
9.2 Illustrating fractions as part of a whole by shading parts of a diagram.
9.3 Illustrating fractions as part of a group by shading parts of a diagram.
9.4 Illustrating fractions as part of a whole by drawing dividing lines in a diagram.
9.5 Writing fractions to represent parts of a whole.
9.6 Writing fractions to represent parts of a group.
9.7 Matching fractions to diagrams.
9.8 Reading and illustrating fractions on a number line.
9.9 Completing equivalent fractions.
9.10 Comparing two fractions with the same denominators.
9.11 Finding the remaining fraction from a whole.
9.12 Reading and illustrating mixed numbers on a number line.
9.13 Recognising mixed numbers in a diagram.
9.14 Comparing two fractions with the same numerators.
9.15 Modeling addition and subtraction of fractions with the same denominators, by using parts of a whole.
9.16 Adding and subtracting fractions with the same denominators.

10. [Place Value] 151

10.1 Writing numbers illustrated by base 10 blocks.
10.2 Writing numbers illustrated by an abacus showing place values.
10.3 Writing the expansion of a number by identifying the digit in each place.
10.4 Writing numbers by using the place values of each digit.
10.5 Writing the expansion of a number by adding the values of each digit based on its place.
10.6 Recognising the place of a digit in a number.
10.7 Finding the value of a digit in a number.
10.8 Comparing numbers by using <, = or >.
10.9 Making the largest or the smallest number when the digits are given.
10.10 Ordering numbers.
10.11 Rounding whole numbers to the nearest 10 or 100.

11. [Word Numbers] 165

11.1 Expressing word numbers in numerals.
11.2 Writing 2-digit numbers in words.
11.3 Writing 3-digit numbers in words.
11.4 Writing 4-digit numbers in words.
11.5 Writing 5-digit numbers in words.

12. [Money] 173

12.1 Recognising coins and values of coins.
12.2 Recognising banknotes and values of banknotes.
12.3 Adding values of coins and banknotes.
12.4 Counting collections of coins and banknotes to make up a value shown on a price tag.
12.5 Comparing prices.
12.6 Counting collections of identical coins to make up a cost.
12.7 Calculating change.
12.8 Adding two or more prices in dollars and cents.

13. [Number Patterns] 187

13.1 Completing number patterns by adding the same number.
13.2 Completing number patterns by subtracting the same number.
13.3 Completing number patterns by adding changing numbers.
13.4 Completing number patterns by subtracting changing numbers.
13.5 Completing number patterns by multiplying by the same number.

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MM Question	SB Skill No.	[Maths Mate - Mathematical strand] Skill Builder - Skill description	
14.		**[Time]**	**195**
	14.1	Naming and ordering days of the week.	
	14.2	Using calendars to identify a date or a day of the month.	
	14.3	Naming and ordering months and seasons of the year.	
	14.4	Telling the time by using 'past' and 'to'.	
	14.5	Showing the time on an analogue clock.	
	14.6	Matching digital and analogue time.	
	14.7	Expressing digital and analogue time in words.	
	14.8	Reading timetables.	
	14.9	Converting between units of time.	
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	15.2	Comparing objects based on their weight.	
	15.3	Comparing objects based on their capacity.	
	15.4	Estimating length, weight and capacity by using the standard units of measurement.	
	15.5	Selecting the appropriate units of measurement.	
	15.6	Measuring length by using a ruler.	
	15.7	Reading scales for length, weight and capacity.	
	15.8	Finding the perimeter of a shape by counting the units around the shape on a grid.	
	15.9	Finding the area of a shape by counting the unit squares covered by the shape on a grid.	
	15.10	Converting units of length.	
	15.11	Converting units of mass (weight).	
	15.12	Converting units of capacity (liquid volume).	
	15.13	Finding the perimeter of a shape by adding the lengths of all sides.	
	15.14	Finding the area of a rectangle by multiplying the side lengths.	
	15.15	Measuring an angle using a protractor.	
16.		**[Shapes]**	**235**
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	16.2	Recognising properties of 2D shapes.	
	16.3	Counting vertices, edges and faces of 3D shapes.	
	16.4	Recognising 2D shapes.	
	16.5	Drawing 2D shapes.	
	16.6	Counting vertices and sides of 2D shapes.	
	16.7	Drawing lines of symmetry in 2D shapes.	
	16.8	Recognising and drawing pairs of parallel and perpendicular lines.	
	16.9	Recognising and drawing different types of angles.	
	16.10	Comparing the size of two angles.	
	16.11	Recognising different types of triangles.	
	16.12	Recognising properties of triangles and quadrilaterals.	
17.		**[Location]**	**249**
	17.1	Naming the position of objects (under, outside, next to, etc).	
	17.2	Drawing objects in the positions under, outside, next to, etc.	
	17.3	Naming and drawing objects in the positions left, right and middle.	
	17.4	Identifying the location of objects on a map or a plan.	
	17.5	Identifying the location of objects using columns and rows.	
	17.6	Following paths on a maze, grid or map.	
	17.7	Describing the transformation of an object.	
	17.8	Drawing the transformation of an object on a grid.	
	17.9	Describing location by using regions on a grid (e.g. A3).	
18.		**[Statistics / Probability]**	**269**
	18.1	Interpreting picture graphs using one-to-one correspondence.	
	18.2	Recognising tally marks.	
	18.3	Interpreting and completing tables with tally marks.	
	18.4	Interpreting bar graphs.	
	18.5	Recognising the likelihood of an event as likely, unlikely, certain, uncertain, possible, impossible.	
	18.6	Interpreting picture graphs where one picture represents many data values.	
	18.7	Comparing the chance of two events.	
	18.8	Listing all the possible outcomes of an event.	
	18.9	Representing data from tables as bar graphs and data from bar graphs as tables.	
	18.10	Describing the degree of likelihood of an event.	
	18.11	Interpreting pictographs with a scale.	

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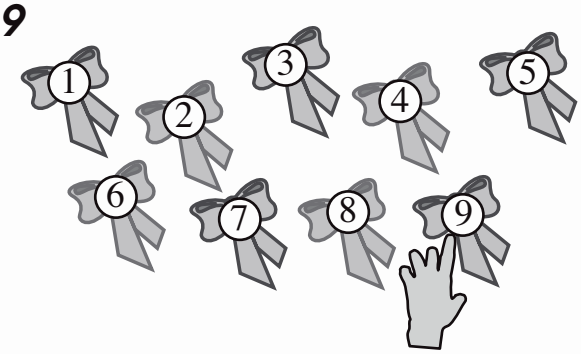
1. [Counting]

Skill 1.1 Counting objects.

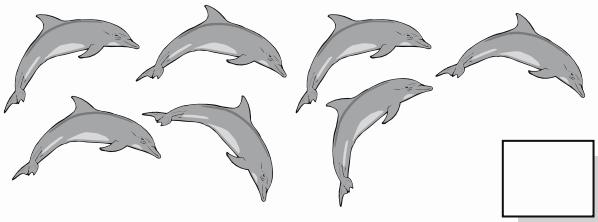
- Decide on a movement e.g. left to right / top row first.
- Touch each object.
- Count out loud.

Q. How many bows are there?

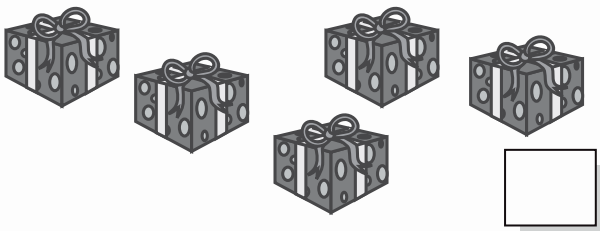
A. *9*



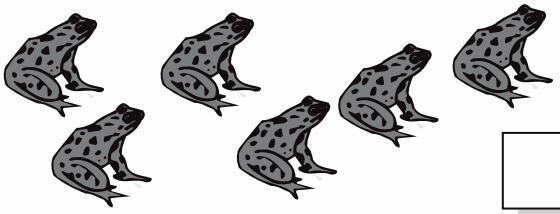
a) How many dolphins are there?



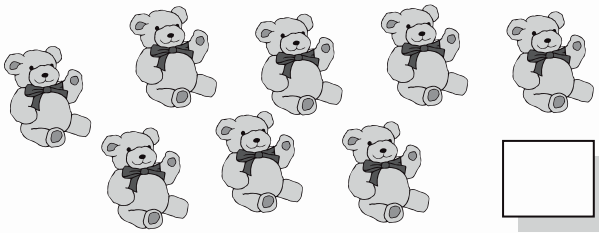
b) How many presents are there?



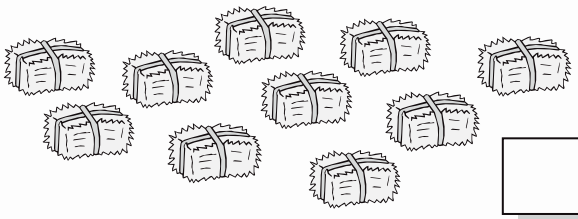
c) How many frogs are there?



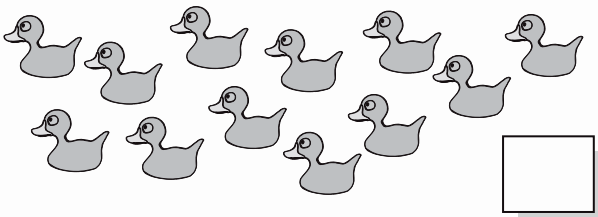
d) How many teddies are there?



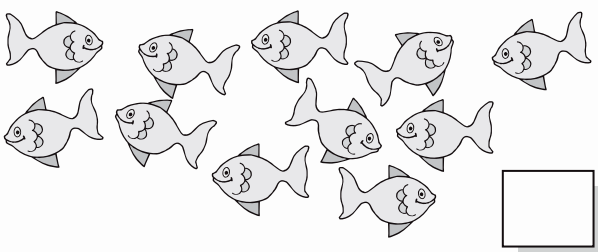
e) How many hay bales are there?



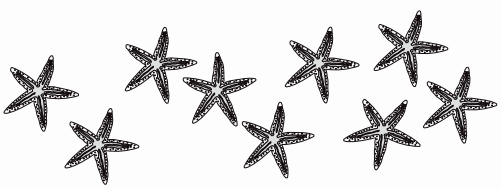
f) How many ducks are there?



g) How many fish are there?



h) How many starfish are there?



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Skill 1.2 Investigating number sequences by finding numbers before and after a number.

After the number
- Count on once.

Before the number
- Think of a smaller number and count on.

Q. Write the numbers before and after 26.

	26	

A. ***25*** *26* ***27***

Count on:
26, 27, 28 ...
Count on:
23, 24, 25, 26 ...

a) Write the numbers before and after 13.

	13	

b) Write the numbers before and after 23.

	23	

c) Write the numbers before and after 44.

	44	

d) Write the numbers before and after 38.

	38	

e) Write the numbers before and after 51.

	51	

f) Write the numbers before and after 69.

	69	

g) Write the numbers before and after 72.

	72	

h) Write the numbers before and after 90.

	90	

i) Write the numbers before and after 18.

	18	

j) Write the numbers before and after 55.

	55	

k) Write the numbers before and after 86.

	86	

l) Write the numbers before and after 170.

	170	

m) Write the numbers before and after 121.

	121	

n) Write the numbers before and after 229.

	229	

o) Write the numbers before and after 127.

	127	

p) Write the numbers before and after 636.

	636	

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Skill 1.3 Counting forwards and backwards by 1s.

Q. Count backwards from 43.

43	42				

A. *43 42* ***41 40 39 38***

a) Count on from 28.

28	29				

b) Count on from 7.

7	8				

c) Count backwards from 9.

9	8				

d) Count on from 18.

18	19				

e) Count on from 76.

76	77				

f) Count backwards from 15.

15	14				

g) Count on from 43.

43	44				

h) Count backwards from 94.

94	93				

i) Count backwards from 304.

304				

j) Count on from 200.

200				

k) Count on from 417.

417				

l) Count backwards from 172.

172				

m) Count on from 189.

189				

n) Count backwards from 553.

553				

o) Count on from 1005.

1005			

p) Count on from 5998.

5998			

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Q. When counting by 3s, what is the next number?

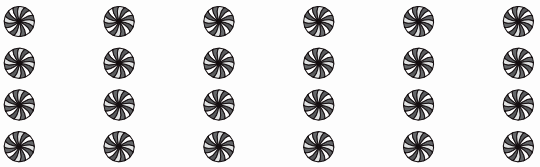
3 , 6 , 9 , 12 , 15 , 18 , ☐

A. ***21***

a) Count by 2s.

2	4			

b) Count by 4s.



4	8				

c) When counting by 2s, what is the next number?

2 , 4 , 6 , 8 , 10 , 12 , 14 , ☐

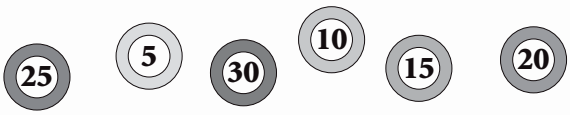
d) When counting by 5s, what is the next number?

5 , 10 , 15 , 20 , 25 , 30 , ☐

e) Use the hearts to show counting by 3s.

3					

f) Use the balls to show counting by 5s.

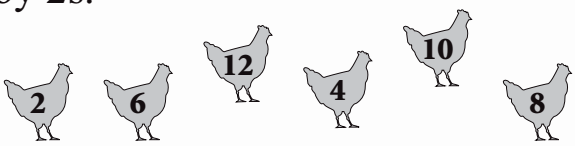


5					

g) Use the bells to show counting by 4s.

4					

h) Use the hens to show counting by 2s.



2					

i) Count by 5s.

5					

j) Count by 3s.

3					

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Skill 1.5 Counting forwards and backwards by 10s, 100s and 1000s (1).

Hint: When you count by 10s the last digit stays the same.

Q. Count forwards by 10s.

19	29				

A. *19 29* ***39 49 59 69***

a) Count backwards by 10s.

68	58				

b) Count forwards by 10s.

10	20				

c) Count forwards by 10s.

43	53				

d) Count backwards by 10s.

57	47				

e) Count forwards by 10s.

22	32				

f) Count backwards by 10s.

60	50				

g) Count forwards by 10s.

18	28				

h) Count backwards by 10s.

99	89				

i) Count forwards by 10s.

800				

j) Count forwards by 10s.

112				

k) Count backwards by 10s.

560				

l) Count forwards by 10s.

302				

m) Count forwards by 10s.

2530			

n) Count forwards by 10s.

1010			

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Skill 1.5 Counting forwards and backwards by 10s, 100s and 1000s (2).

o) Count forwards by 100s.

200				

p) Count backwards by 100s.

800				

q) Count backwards by 100s.

500				

r) Count forwards by 100s.

300				

s) Count forwards by 100s.

100				

t) Count forwards by 100s.

202				

u) Count backwards by 100s.

700				

v) Count forwards by 100s.

50				

w) Count forwards by 1000s.

1000			

x) Count backwards by 1000s.

9000			

y) Count forwards by 1000s.

4000			

z) Count forwards by 1000s.

6000			

A) Count backwards by 1000s.

5000			

B) Count backwards by 1000s.

8000			

C) Count forwards by 1000s.

3000			

D) Count backwards by 1000s.

7000			

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Skill 1.6 Investigating number sequences by skip counting.

- Find the amount added to get from one number to the next number.
- Add that amount to continue the pattern.

Q. Complete the skip counting pattern.

33 36 ☐ 42 45 ☐ 51 ☐

A. *33 36* ***39*** *42 45* ***48*** *51* ***54***

3 is added to 33 to get to 36,
so add 3 to 36 to get 39.
Continue adding 3.

a) Complete the skip counting pattern.

15 20 25 ☐ 35 ☐ ☐

b) Complete the skip counting pattern.

6 8 ☐ 12 ☐ 16 ☐

c) Complete the skip counting pattern.

110 ☐ 130 ☐ 150 ☐

d) Complete the skip counting pattern.

40 44 48 ☐ ☐ 60 ☐ 68

e) Complete the skip counting pattern.

250 ☐ ☐ 280 290 ☐

f) Complete the skip counting pattern.

21 24 ☐ 30 ☐ 36 ☐ 42

g) Complete the skip counting pattern.

4 8 12 ☐ 20 ☐ 28 ☐

h) Complete the skip counting pattern.

4 6 ☐ ☐ ☐ ☐ 16

i) Complete the skip counting pattern.

10 20 ☐ ☐ 50 ☐ ☐

j) Complete the skip counting pattern.

46 48 50 ☐ 54 ☐ ☐ 60

k) Complete the skip counting pattern.

25 30 ☐ 40 45 ☐ 55 ☐

l) Complete the skip counting pattern.

36 39 ☐ 45 ☐ ☐ 54

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Skill 1.7 Counting forwards by numbers from 1 to 9 from a larger number (1).

Q. Count on by 7s from 35.

35					

A. *35* ***42 49 56 63 70***

a) Count on by 4s from 4.

4					

b) Count on by 3s from 6.

6					

c) Count on by 4s from 12.

12					

d) Count on by 3s from 15.

15					

e) Count on by 5s from 20.

20					

f) Count on by 2s from 28.

28					

g) Count on by 3s from 33.

33					

h) Count on by 5s from 50.

50					

i) Count on by 4s from 20.

20					

j) Count on by 2s from 46.

46					

k) Count on by 8s from 16.

16					

l) Count on by 9s from 18.

18					

m) Count on by 6s from 18.

18					

n) Count on by 7s from 14.

14					

o) Count on by 5s from 35.

35					

p) Count on by 8s from 32.

32					

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Skill 1.7 Counting forwards by numbers from 1 to 9 from a larger number (2).

q) Count on by 3s from 90.

90				

r) Count on by 5s from 110.

110				

s) Count on by 4s from 204.

204				

t) Count on by 9s from 81.

81				

u) Count on by 6s from 120.

120				

v) Count on by 2s from 96.

96				

w) Count on by 8s from 800.

800				

x) Count on by 4s from 112.

112				

y) Count on by 5s from 560.

560				

z) Count on by 9s from 108.

108				

A) Count on by 7s from 70.

70				

B) Count on by 4s from 304.

304				

C) Count on by 8s from 640.

640				

D) Count on by 6s from 360.

360				

E) Count on by 3s from 198.

198				

F) Count on by 5s from 480.

480				

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Skill 1.8 Recognising odd and even numbers (1).

Even numbers
- Consider the last digit.
  It must be 0, 2, 4, 6, 8.

Odd numbers
- Consider the last digit.
  It must be 1, 3, 5, 7, 9.

Q. Which of these numbers is odd?

8 , 104 , 96 , 52 , 39 , 50

A. ***39***

39 is the only number that ends in a 1, 3, 5, 7 or a 9 so it is odd.
8 , 104 , 96 , 52 and 50
all end in either
0, 2, 4, 6 or 8, so they are all even.

a) Circle the even numbers.

10 26 107
55 48 35 61

b) Circle the even numbers.

13 29 110
22 17 45 41

c) Circle the odd numbers.

20 18 304
174 52 35 81

d) Circle the odd numbers.

14 16 138
22 37 82 93

e) Circle the odd numbers.

124 83 92 20
27 16 108

f) Circle the even numbers.

135 24 78
56 97 19 21

g) Which of these numbers is even?

18 , 7 , 99 , 145 , 87 , 23

h) Which of these numbers is odd?

8 , 104 , 96 , 52 , 47 , 50

i) Which of these numbers is odd?

16 , 98 , 114 , 22 , 30 , 41

j) Which of these numbers is even?

25 , 76 , 39 , 207 , 49 , 81

k) Which of these numbers is odd?

24 , 56 , 18 , 92 , 33 , 100

l) Which of these numbers is even?

15 , 113 , 27 , 69 , 51 , 94

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m) Is the sum of 16 and 14 an odd or an even number?

n) Is the sum of 15 and 22 an odd or an even number?

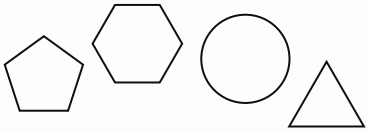
o) Is the sum of 14 and 11 an odd or an even number?

p) Is the sum of 23 and 22 an odd or an even number?

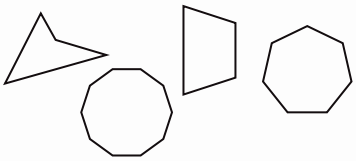
q) Is the sum of 25 and 33 an odd or an even number?

r) Is the sum of 46 and 13 an odd or an even number?

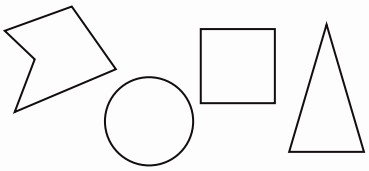
s) Redraw the shape with an even number of sides.



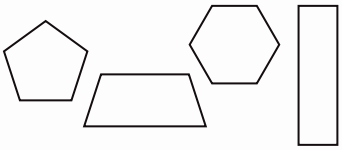
t) Redraw the shape with an odd number of sides.



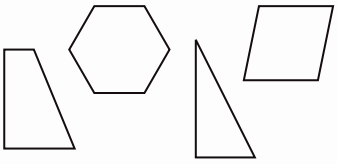
u) Redraw the shape with an even number of sides.



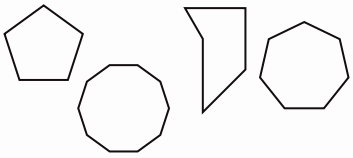
v) Redraw the shape with an odd number of sides.



w) Redraw the shape with an odd number of sides.



x) Redraw the shape with an even number of sides.



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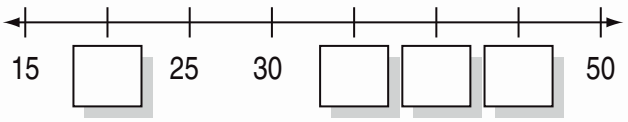
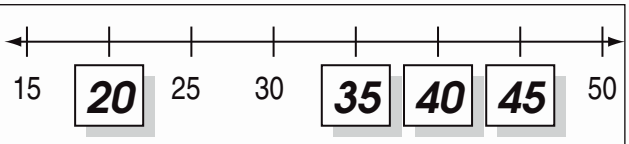
Skill 1.9 Counting forwards by numbers from 1 to 9 using a number line.

- Find the difference between any 2 given numbers that are one after the other.
- Count on from the first number in the number line by this amount.

Q. Complete the number line.

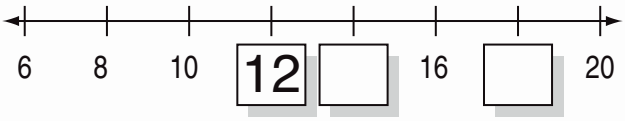


A.

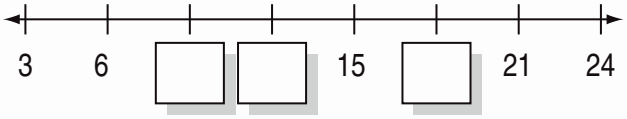


The two given numbers, one after the other, are 25 and 30.
The difference between 25 and 30 is 5.
Count on by 5s from 15:
15, 20, 25, 30, 35, 40, 45, 50

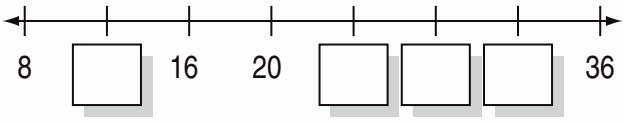
a) Complete the number line.



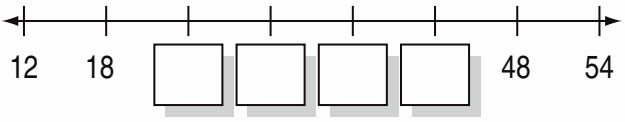
b) Complete the number line.



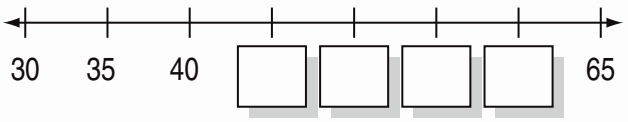
c) Complete the number line.



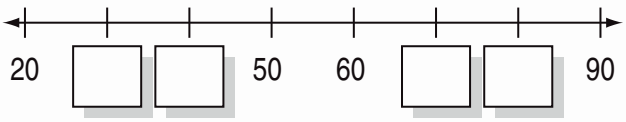
d) Complete the number line.



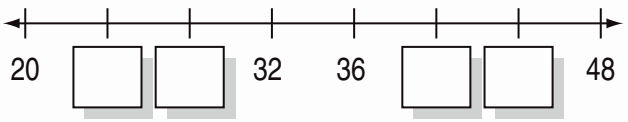
e) Complete the number line.



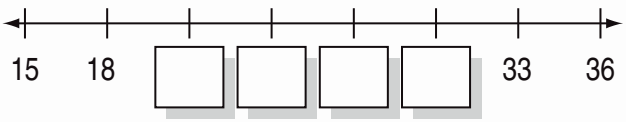
f) Complete the number line.



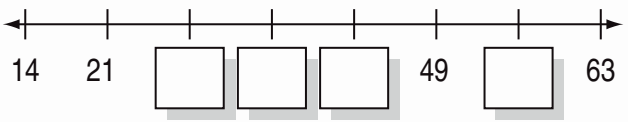
g) Complete the number line.



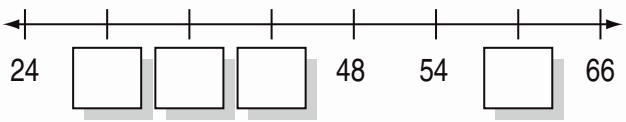
h) Complete the number line.



i) Complete the number line.



j) Complete the number line.



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Skill 1.10 Counting forwards by 6s, 7s, 8s and 9s.

Q. Count by 6s.

6	12				

A. *6 12* ***18 24 30 36***

a) When counting by 9s, what is the next number?

9 , 18 , 27 , 36 , 45 , 54 , ☐

b) When counting by 7s, what is the next number?

7 , 14 , 21 , 28 , 35 , 42 , ☐

c) When counting by 8s, what is the next number?

8 , 16 , 24 , 32 , 40 , 48 , ☐

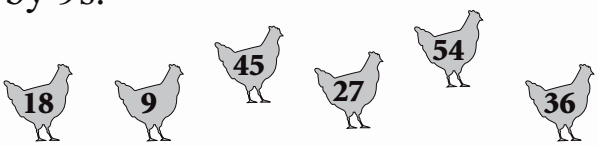
d) When counting by 6s, what is the next number?

6 , 12 , 18 , 24 , 30 , 36 , ☐

e) Use the bells to show counting by 6s.

6					

f) Use the hens to show counting by 9s.

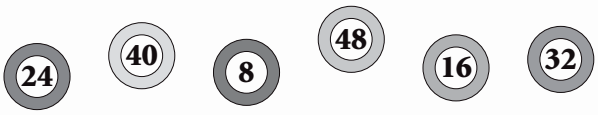


9					

g) Use the hearts to show counting by 7s.

7					

h) Use the balls to show counting by 8s.



8					

i) Count by 9s.

9	18				

j) Count by 7s.

7	14				

k) Count by 8s.

8	16				

l) Count by 6s.

6	12				

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Skill 1.11 Counting forwards and backwards by a number greater than 1, from a larger number.

- Count forwards or backwards by 1s.

Q. Start at 23. Count backward 5.

A. ***18***

Count backward 5 by 1s:
23, 22, 21, 20, 19, 18
1 2 3 4 5

a) Start at 15. Count forward 8.

b) Start at 12. Count forward 7.

c) Start at 24. Count backward 5.

d) Start at 36. Count backward 5.

e) Start at 34. Count forward 6.

f) Start at 64. Count forward 7.

g) Start at 25. Count backward 4.

h) Start at 45. Count backward 8.

i) Start at 69. Count forward 8.

j) Start at 91. Count backward 6.

k) Start at 119. Count backward 9.

l) Start at 135. Count forward 6.

m) Start at 195. Count forward 8.

n) Start at 203. Count backward 7.

o) Start at 238. Count forward 5.

p) Start at 312. Count backward 4.

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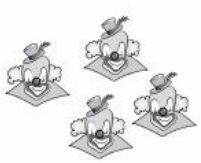
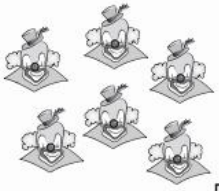
2. [Addition / Subtraction]

Skill 2.1 Adding the numbers from 1 to 10 represented by pictures, by counting on (1).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

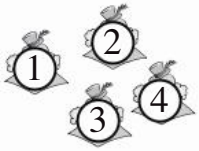
- Count all the objects in both groups to complete the addition.

Q. Complete the addition.


plus


$4 + 6 =$ ☐

A. $4 + 6 = \mathbf{10}$



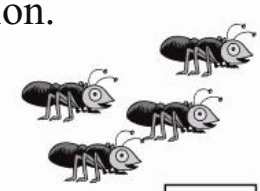
plus

a) Complete the addition.

plus

$5 + 6 =$ ☐

b) Complete the addition.

plus


$3 + 4 =$ ☐

c) Complete the addition.

plus

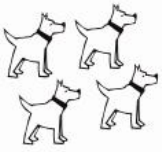
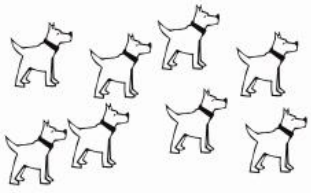
$5 + 5 =$ ☐

d) Complete the addition.

plus

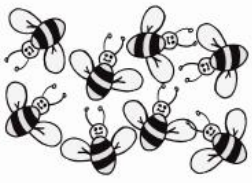
$6 + 7 =$ ☐

e) Complete the addition.


plus


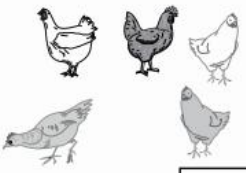
$4 + 8 =$ ☐

f) Complete the addition.


plus

$8 + 3 =$ ☐

g) Complete the addition.


plus

☐ + ☐ = ☐

h) Complete the addition.

plus

☐ + ☐ = ☐

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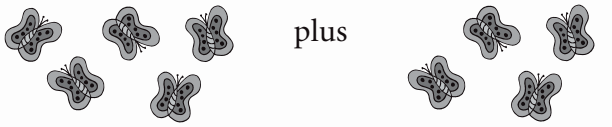
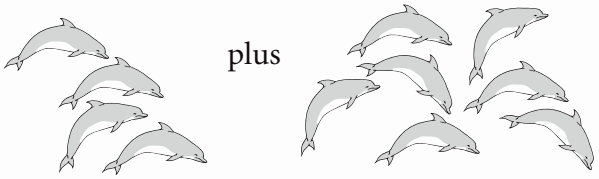
Skill 2.1 Adding the numbers from 1 to 10 represented by pictures, by counting on (2).

i) Complete the addition.



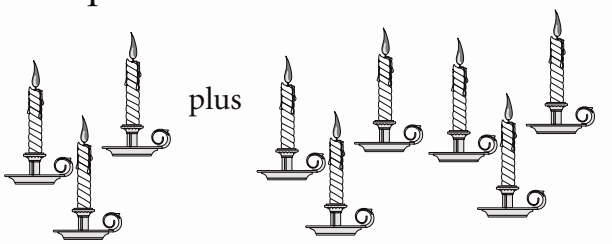
□ + □ = □

j) Complete the addition.



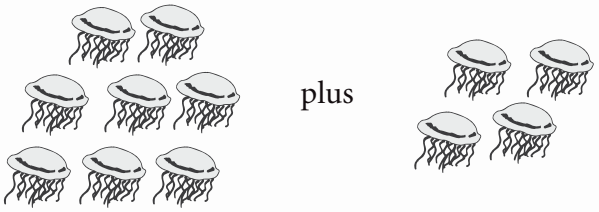
□ + □ = □

k) Complete the addition.



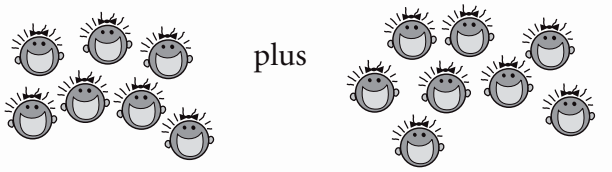
□ + □ = □

l) Complete the addition.



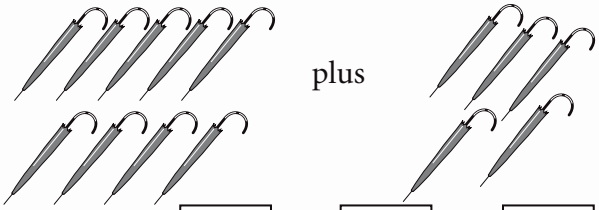
□ + □ = □

m) Complete the addition.



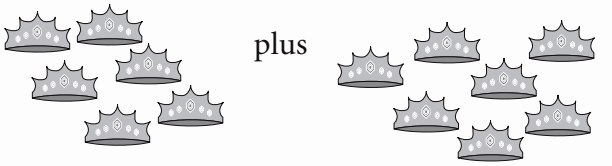
□ + □ = □

n) Complete the addition.



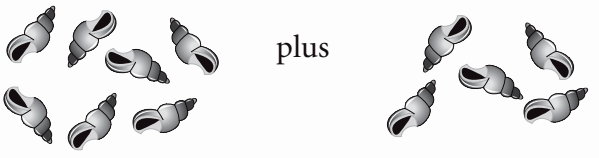
□ + □ = □

o) Complete the addition.



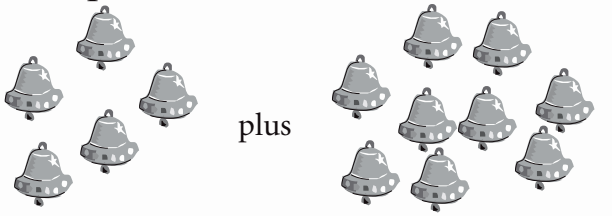
□ + □ = □

p) Complete the addition.



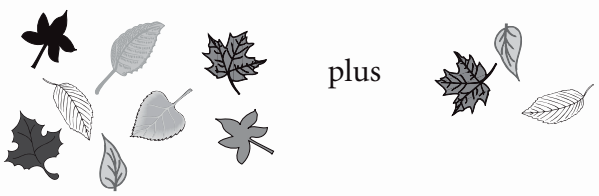
□ + □ = □

q) Complete the addition.



□ + □ = □

r) Complete the addition.



□ + □ = □

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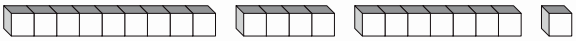
Skill 2.2 Recognising pairs of numbers that add to 10 (1).

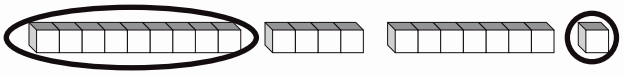
Numbers that add to 10:

0	1	2	3	4	5	6	7	8	9
|	|	|	|	|	|	|	|	|	|
10	9	8	7	6	5	4	3	2	1

Q. Circle two blocks that add to 10.



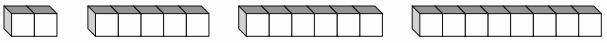
A.



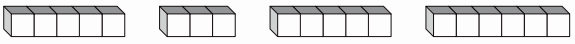
The blocks are in order, 9, 4, 7 and 1.
9 + 1 = 10

a) Circle two blocks that add to 10.

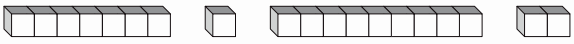
b) Circle two blocks that add to 10.



c) Circle two blocks that add to 10.



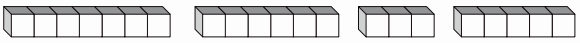
d) Circle two blocks that add to 10.



e) Circle two blocks that add to 10.

f) Circle two blocks that add to 10.

g) Circle two blocks that add to 10.



h) Circle two blocks that add to 10.

i) Draw lines to join pairs of numbers that add to 10.

2	5	1	7	4
3	6	9	5	8

j) Draw lines to join pairs of numbers that add to 10.

5	3	9	8	6
4	7	5	2	1

k) Draw lines to join pairs of numbers that add to 10.

7	4	5	2	1
6	9	3	8	5

l) Draw lines to join pairs of numbers that add to 10.

4	9	7	8	5
3	6	5	1	2

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m) Draw lines to join pairs of numbers that add to 10.

1	2	5	6	7
9	3	8	5	4

n) Draw lines to join pairs of numbers that add to 10.

6	1	3	5	2
5	4	9	8	7

o) Draw lines to join pairs of numbers that add to 10.

5	3	9	8	6
4	7	5	2	1

p) Draw lines to join pairs of numbers that add to 10.

8	3	5	1	6
7	4	9	2	5

q) Draw lines to join pairs of numbers that add to 10.

2	9	7	4	5
1	8	5	3	6

r) Draw lines to join pairs of numbers that add to 10.

7	5	1	6	2
9	4	3	5	8

s) Draw lines to join pairs of numbers that add to 10.

5	7	4	2	1
6	9	8	5	3

t) Draw lines to join pairs of numbers that add to 10.

6	3	9	5	8
4	7	1	2	5

u) Draw lines to join pairs of numbers that add to 10.

9	6	5	8	3
4	2	1	7	5

v) Draw lines to join pairs of numbers that add to 10.

4	7	8	9	5
2	5	1	3	6

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Skill 2.3 Adding numbers by first making 10 (1).

- Recognise the pair of numbers that add to 10.

0	1	2	3	4	5	6	7	8	9
|	|	|	|	|	|	|	|	|	|
10	9	8	7	6	5	4	3	2	1

- Add the remaining number to 10.

Q. Circle the numbers that make 10, then add.

$2 + 7 + 8 =$ ☐

A. (2) + 7 + (8) = **17**

2 + 8 = 10
10 + 7 = 17

a) Circle the numbers that make 10, then add.

(3) + 6 + (7) = ☐

b) Circle the numbers that make 10, then add.

$5 + 9 + 5 =$ ☐

c) Circle the numbers that make 10, then add.

$8 + 4 + 6 =$ ☐

d) Circle the numbers that make 10, then add.

$1 + 9 + 3 =$ ☐

e) Circle the numbers that make 10, then add.

$7 + 9 + 1 =$ ☐

f) Circle the numbers that make 10, then add.

$8 + 5 + 2 =$ ☐

g) Circle the numbers that make 10, then add.

$6 + 4 + 3 =$ ☐

h) Circle the numbers that make 10, then add.

$7 + 1 + 3 =$ ☐

i) Circle the numbers that make 10, then add.

$4 + 5 + 5 =$ ☐

j) Circle the numbers that make 10, then add.

$2 + 8 + 6 =$ ☐

k) Circle the numbers that make 10, then add.

$7 + 8 + 3 =$ ☐

l) Circle the numbers that make 10, then add.

$4 + 6 + 9 =$ ☐

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m) Circle the numbers that make 10, then add.

$1 + 6 + 2 + 9 =$ ☐

n) Circle the numbers that make 10, then add.

$5 + 4 + 5 + 3 =$ ☐

o) Circle the numbers that make 10, then add.

$3 + 9 + 4 + 6 =$ ☐

p) Circle the numbers that make 10, then add.

$4 + 9 + 6 + 9 =$ ☐

q) Circle the numbers that make 10, then add.

$6 + 5 + 8 + 5 =$ ☐

r) Circle the numbers that make 10, then add.

$2 + 7 + 6 + 8 =$ ☐

s) Circle the numbers that make 10, then add.

$6 + 7 + 3 + 8 =$ ☐

t) Circle the numbers that make 10, then add.

$3 + 4 + 6 + 9 =$ ☐

u) Circle the numbers that make 10, then add.

$8 + 9 + 7 + 1 =$ ☐

v) Circle the numbers that make 10, then add.

$6 + 5 + 5 + 6 =$ ☐

w) Circle the numbers that make 10, then add.

$5 + 3 + 8 + 7 =$ ☐

x) Circle the numbers that make 10, then add.

$6 + 8 + 5 + 2 =$ ☐

y) Circle the numbers that make 10, then add.

$4 + 9 + 1 + 8 =$ ☐

z) Circle the numbers that make 10, then add.

$7 + 9 + 3 + 5 =$ ☐

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Skill 2.4 Recognising pairs of numbers that add to 20.

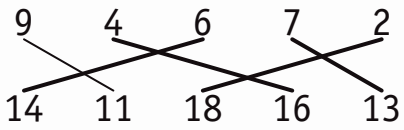
Numbers that add to 20:

10	11	12	13	14	15	16	17	18	19	20
|	|	|	|	|	|	|	|	|	|	|
10	9	8	7	6	5	4	3	2	1	0

Q. Draw lines to join pairs of numbers that add to 20.

9	4	6	7	2
14	11	18	16	13

A.



4 + 16 = 20
6 + 14 = 20
7 + 13 = 20
2 + 18 = 20

a) Draw lines to join pairs of numbers that add to 20.

11	15	20	19	12
0	9	8	5	1

b) Draw lines to join pairs of numbers that add to 20.

3	10	7	4	2
16	18	10	13	17

c) Draw lines to join pairs of numbers that add to 20.

13	17	14	16	18
2	3	7	6	4

d) Draw lines to join pairs of numbers that add to 20.

9	6	8	1	5
14	19	15	11	12

e) Draw lines to join pairs of numbers that add to 20.

12	14	20	17	15
8	0	5	6	3

f) Draw lines to join pairs of numbers that add to 20.

8	2	10	4	3
16	12	17	18	10

g) Draw lines to join pairs of numbers that add to 20.

12	14	16	11	19
9	1	8	4	6

h) Draw lines to join pairs of numbers that add to 20.

7	5	0	2	3
18	17	20	13	15

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Skill 2.5 Adding 10 and 100 to a number by using base 10 blocks (1).

To add 10

- Count the tens and then add the units.

OR

- Add a 1 to the tens place.
- Keep the other digits unchanged.

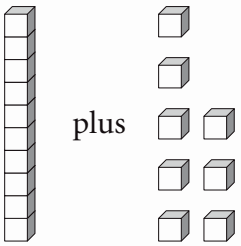
To add 100

- Count the hundreds and the tens, and then add the units.

OR

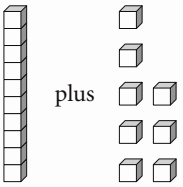
- Add a 1 to the hundreds place
- Keep the other digits unchanged.

Q. Complete the addition.



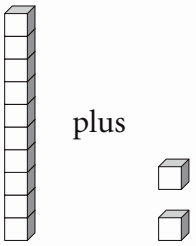
$10 + 8 =$ ☐

A. *10 + 8 =* ***18***



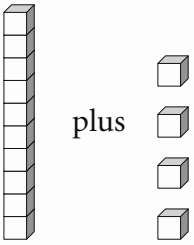
1 Ten **8** Ones

a) Complete the addition.



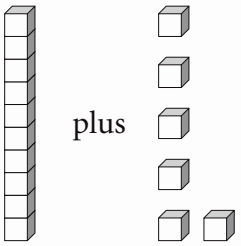
$10 + 2 =$ ☐

b) Complete the addition.



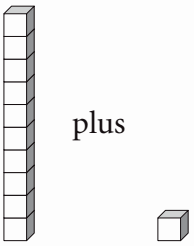
$10 + 4 =$ ☐

c) Complete the addition.



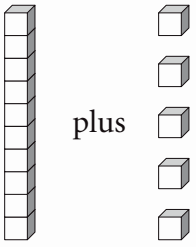
$10 + 6 =$ ☐

d) Complete the addition.



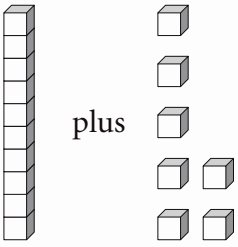
$10 + 1 =$ ☐

e) Complete the addition.



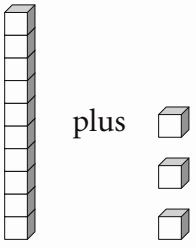
$10 + 5 =$ ☐

f) Complete the addition.



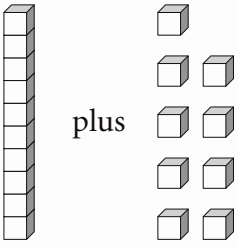
$10 + 7 =$ ☐

g) Complete the addition.



$10 + 3 =$ ☐

h) Complete the addition.



$10 + 9 =$ ☐

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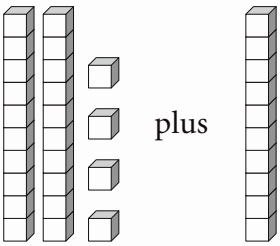
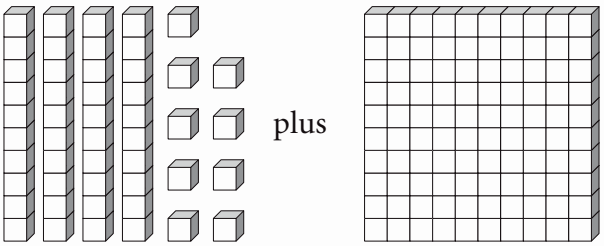
Skill 2.5 Adding 10 and 100 to a number by using base 10 blocks (2).

i) Complete the addition.



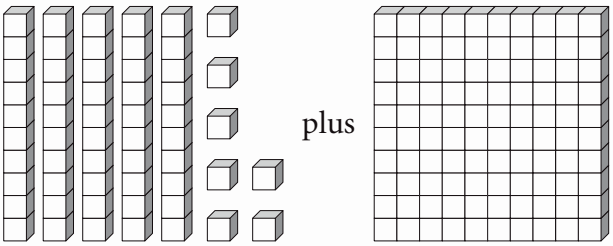
□ + □ = □

j) Complete the addition.



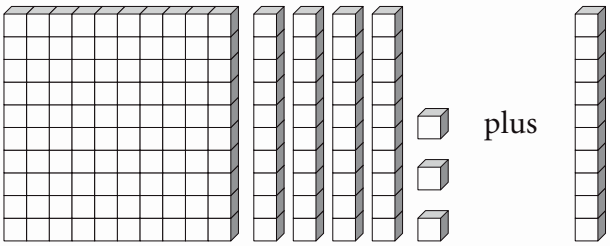
□ + □ = □

k) Complete the addition.



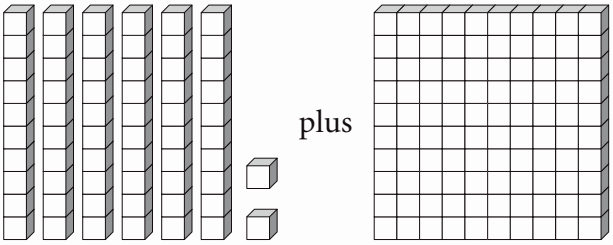
□ + □ = □

l) Complete the addition.



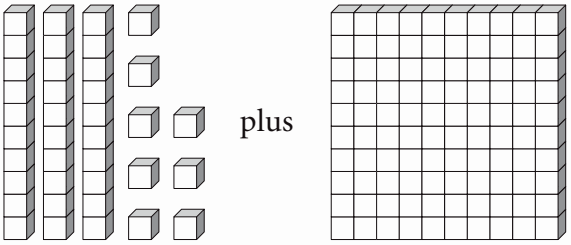
□ + □ = □

m) Complete the addition.



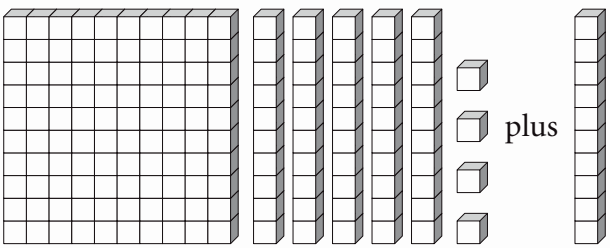
□ + □ = □

n) Complete the addition.



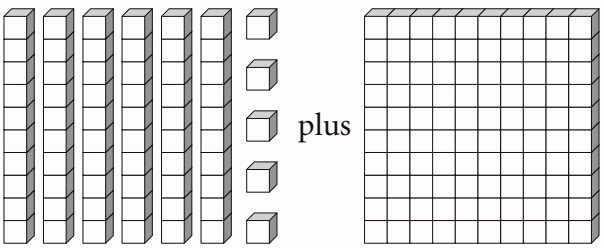
□ + □ = □

o) Complete the addition.



□ + □ = □

p) Complete the addition.



□ + □ = □

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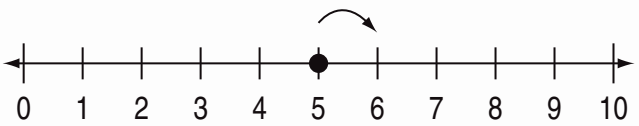
Skill 2.6 Adding the numbers from 1 to 10 by counting forwards on a number line (1).

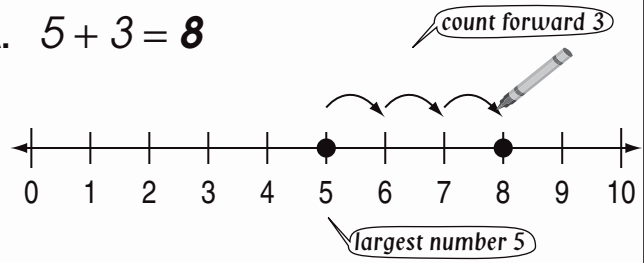
- Mark the largest number in the sum on the number line.
- Use your pencil to count forwards the smallest number.

Q.

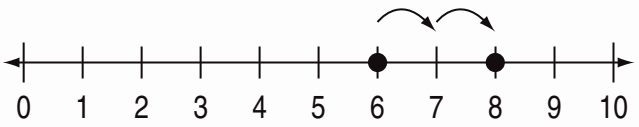


$5 + 3 =$ ☐

A. $5 + 3 = \mathbf{8}$

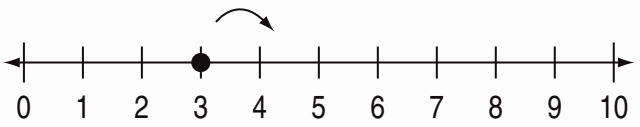


a)



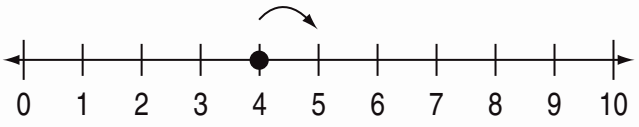
$6 + 2 =$ ☐

b)



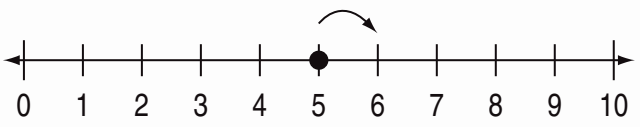
$3 + 3 =$ ☐

c)



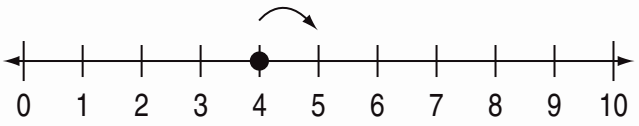
$2 + 4 =$ ☐

d)



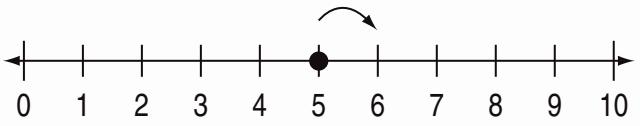
$5 + 4 =$ ☐

e)



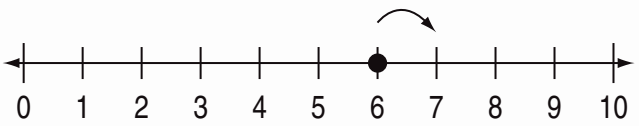
$4 + 3 =$ ☐

f)



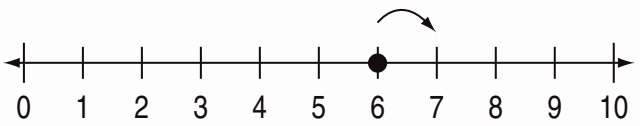
$2 + 5 =$ ☐

g)



$2 + 6 =$ ☐

h)

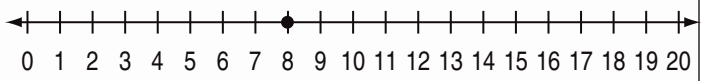


$6 + 4 =$ ☐

i)

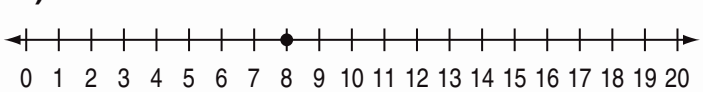
$7 + 9 =$ ☐

j)



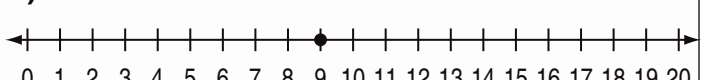
$8 + 6 =$ ☐

k)



$4 + 8 =$ ☐

l)



$5 + 9 =$ ☐

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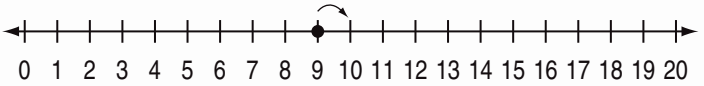
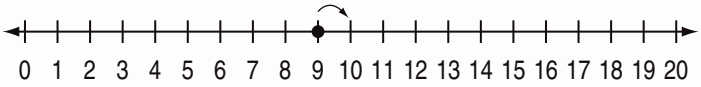
Skill 2.6 Adding the numbers from 1 to 10 by counting forwards on a number line (2).

m)



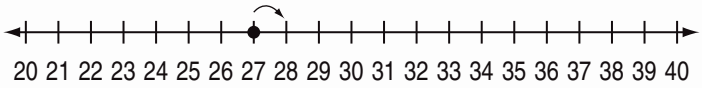
$9 + 9 =$ ☐

n)



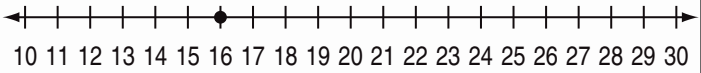
$8 + 9 =$ ☐

o)



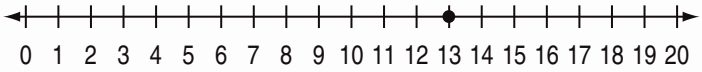
$7 + 27 =$ ☐

p)



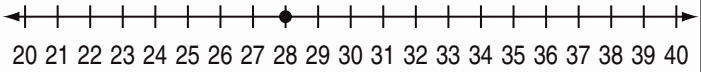
$16 + 8 =$ ☐

q)



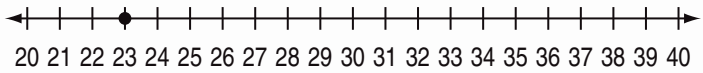
$6 + 13 =$ ☐

r)



$28 + 5 =$ ☐

s)

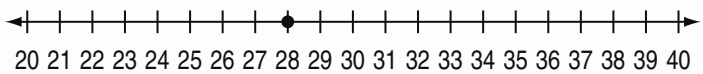


$9 + 23 =$ ☐

t)

$39 + 6 =$ ☐

u)

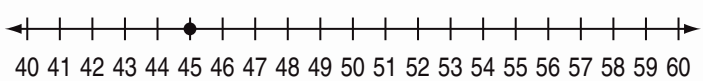


$28 + 7 =$ ☐

v)

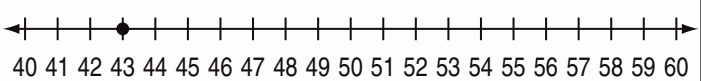
$8 + 39 =$ ☐

w)



$6 + 45 =$ ☐

x)



$43 + 9 =$ ☐

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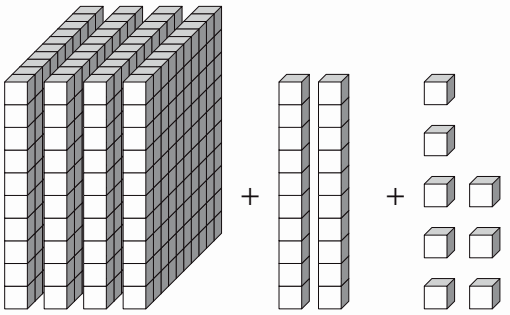
Skill 2.7 Adding numbers by using base 10 blocks (1).

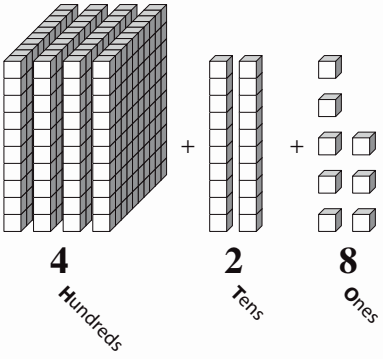
- Write the total number of 10 × 10 blocks in the hundreds place.
- Write the total number of 1 × 10 blocks in the tens place.
- Write the total number of minis in the ones place.

Q. Complete the addition.

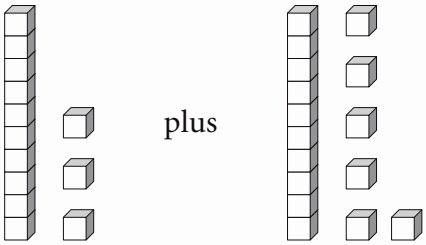


400 + 20 + 8 = ☐

A. *400 + 20 + 8 =* ***428***

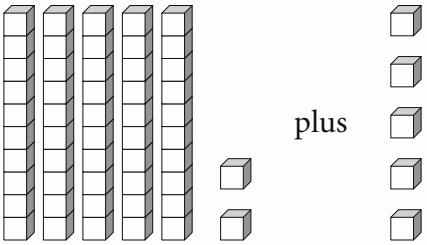


a) Complete the addition.



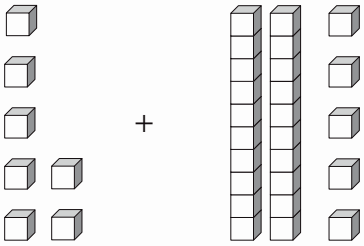
13 + 16 = ☐

b) Complete the addition.



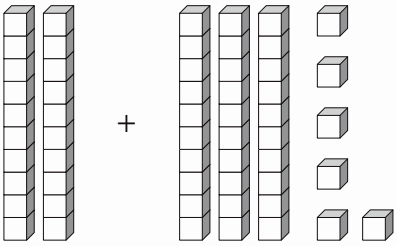
52 + 5 = ☐

c) Complete the addition.



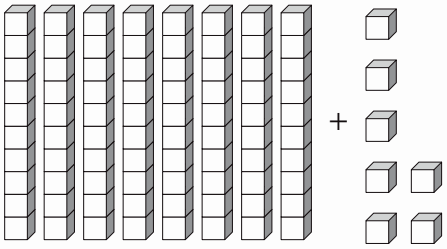
7 + 15 = ☐

d) Complete the addition.



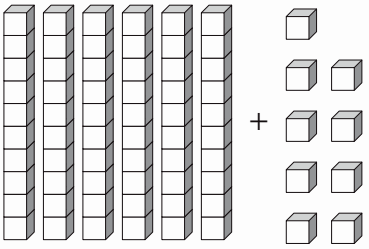
20 + 36 = ☐

e) Complete the addition.



80 + 7 = ☐

f) Complete the addition.



60 + 9 = ☐

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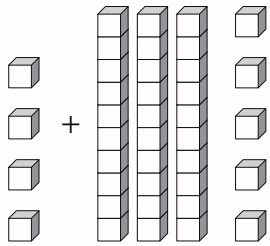
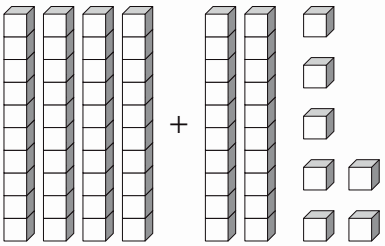
Skill 2.7 Adding numbers by using base 10 blocks (2).

g) Complete the addition.



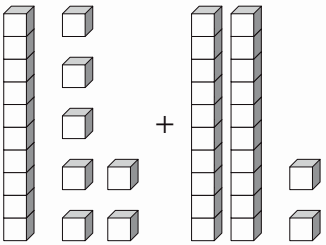
$4 + 35 =$ ☐

h) Complete the addition.



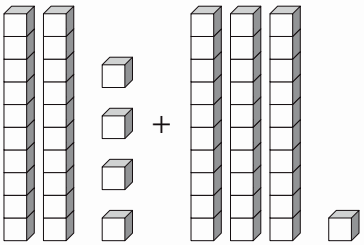
$40 + 27 =$ ☐

i) Complete the addition.



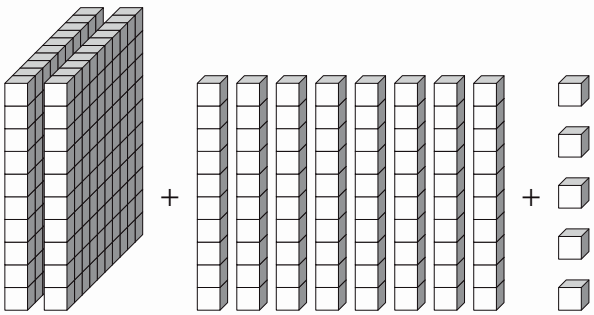
$17 + 22 =$ ☐

j) Complete the addition.



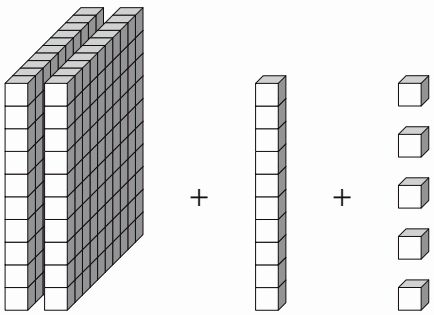
$24 + 31 =$ ☐

k) Complete the addition.



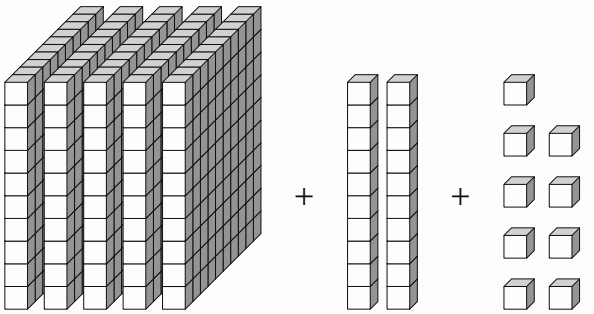
$200 + 80 + 5 =$ ☐

l) Complete the addition.



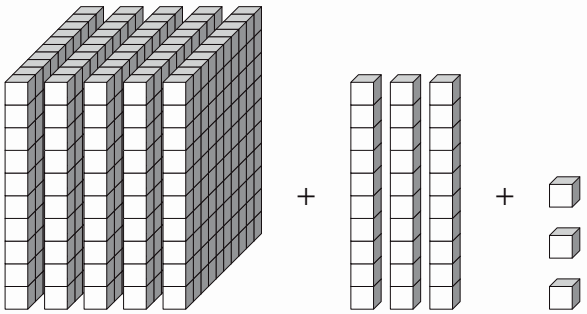
☐ + ☐ + ☐ = ☐

m) Complete the addition.



☐ + ☐ + ☐ = ☐

n) Complete the addition.



☐ + ☐ + ☐ = ☐

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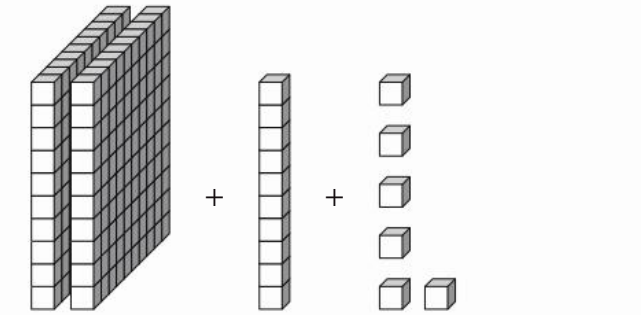
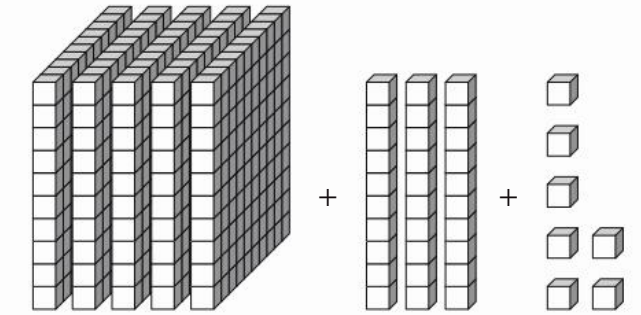
Skill 2.7 Adding numbers by using base 10 blocks (3).

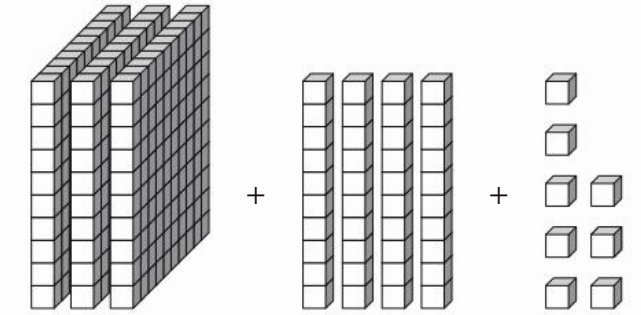
o) Complete the addition.



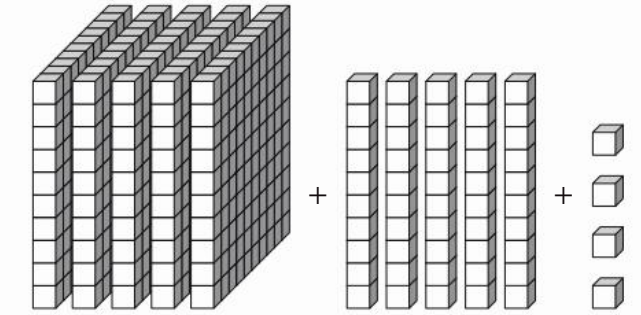
p) Complete the addition.



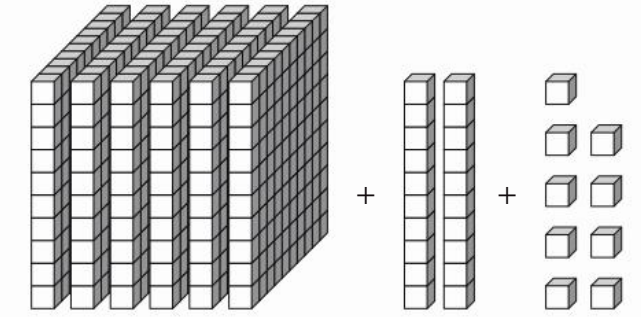
q) Complete the addition.



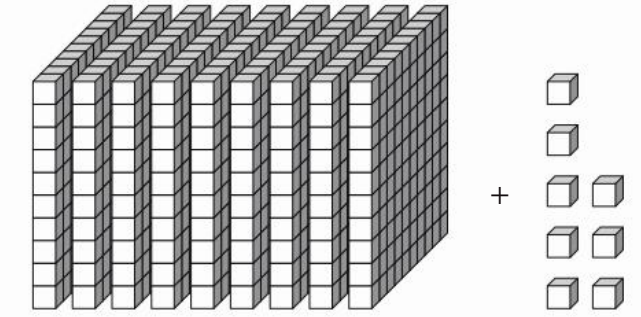
r) Complete the addition.



s) Complete the addition.



t) Complete the addition.



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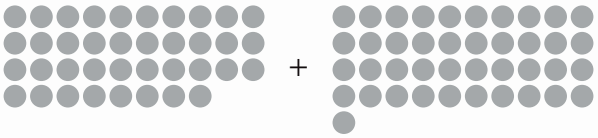
Skill 2.8 Completing addition number sentences by using base 10 representation.

- Count by 10s the number of dots on each side of the number sentence.
- Add the totals.

Q. Complete the number sentence.



$38 + \square = \square$

A. $38 + \mathbf{41} = \mathbf{79}$

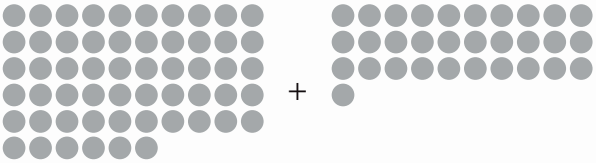
a) Complete the number sentence.

$16 + 30 = \square$

b) Complete the number sentence.

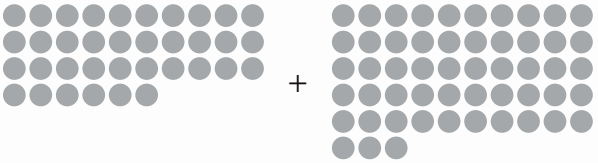
$27 + \square = \square$

c) Complete the number sentence.



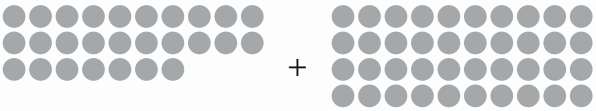
$\square + 31 = \square$

d) Complete the number sentence.



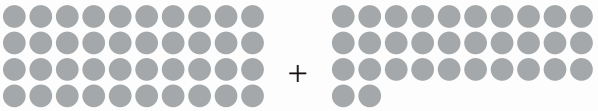
$\square + 53 = \square$

e) Complete the number sentence.



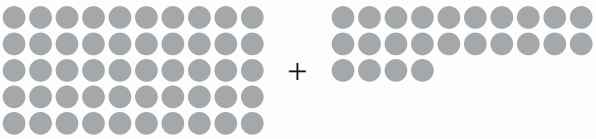
$27 + \square = \square$

f) Complete the number sentence.



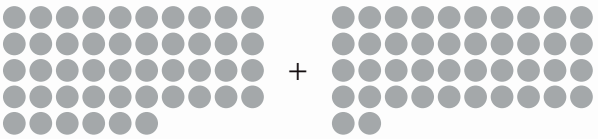
$\square + 32 = \square$

g) Complete the number sentence.



$50 + \square = \square$

h) Complete the number sentence.



$46 + \square = \square$

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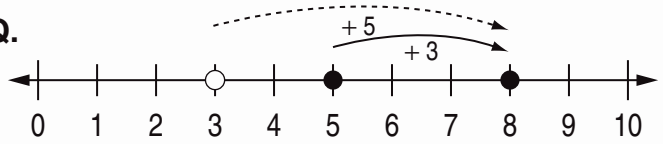
Skill 2.9 Modelling the commutative property for addition on a number line.

- Use the number line to check both sums.
- Find the missing number from the other side of the sum.
  Hint: When adding two numbers, the order of the numbers can be reversed.

Q.

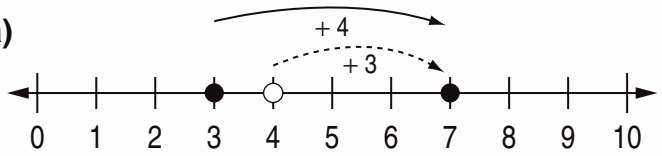


$5 + 3 = 3 +$ ☐

A. $5 + 3 = 3 + \mathbf{5}$

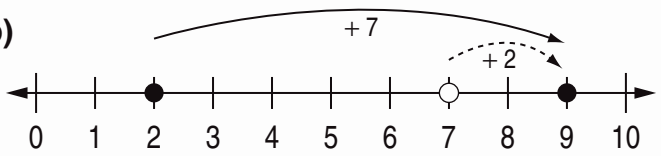
$5 + 3 = 8$
$3 + 5 = 8$

a)



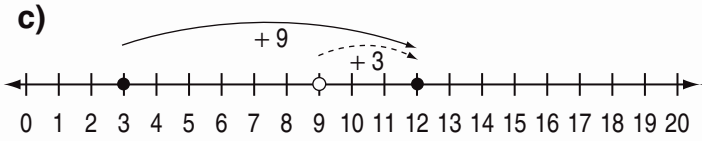
$3 + 4 =$ 4 $+ 3$

b)



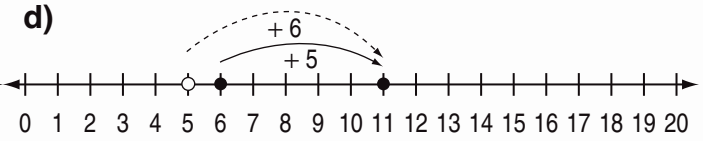
$2 + 7 = 7 +$ ☐

c)



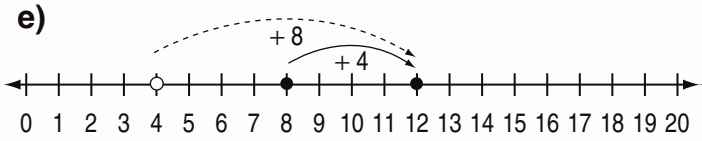
☐ $+ 3 = 3 + 9$

d)



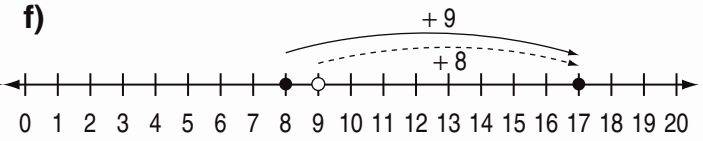
$6 + 5 =$ ☐ $+ 6$

e)



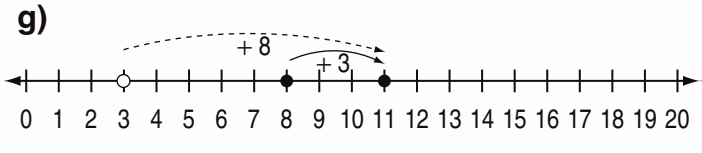
☐ $+ 8 = 8 + 4$

f)



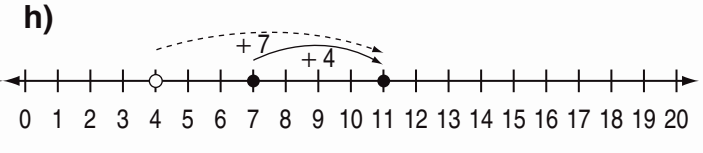
☐ $+ 8 = 8 + 9$

g)



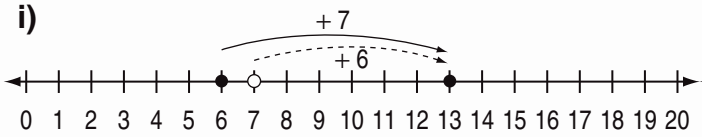
$8 + 3 =$ ☐ $+ 8$

h)



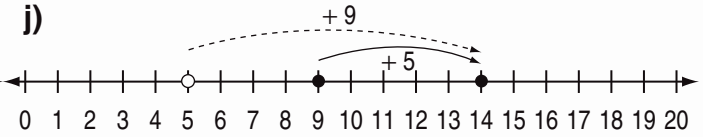
$4 +$ ☐ $= 7 + 4$

i)



☐ $+ 6 = 6 + 7$

j)



☐ $+ 9 = 9 + 5$

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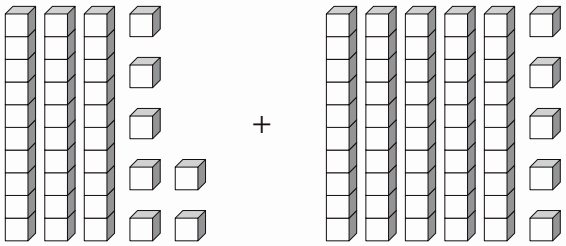
Skill 2.10 Adding 2-digit numbers by trading with base 10 blocks.

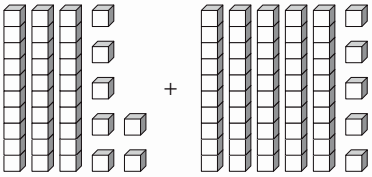
- Count the tens and ones on the first side of the number sentence.
- Count the tens and ones on the second side of the number sentence, and count the totals.

Q. Complete the addition.



□ + □ = □

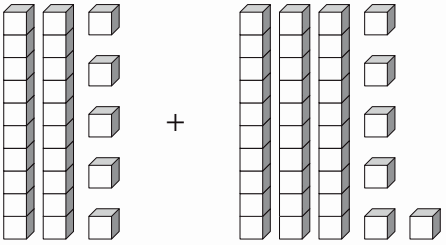
A.



30 + 50 = 80
7 + 5 = 12
80 + 12 = 92

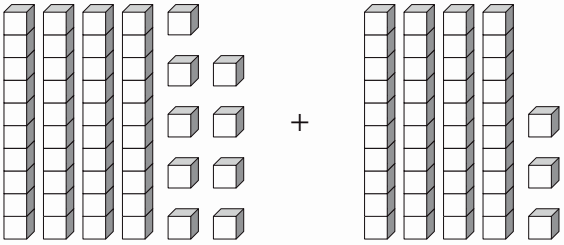
37* + *55* = *92

a) Complete the addition.



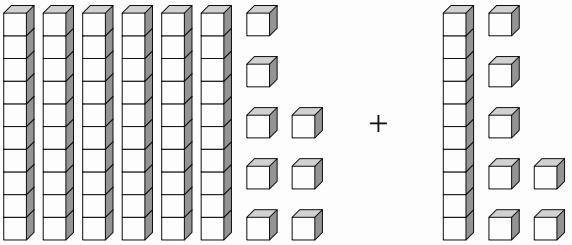
25 + 36 = □

b) Complete the addition.



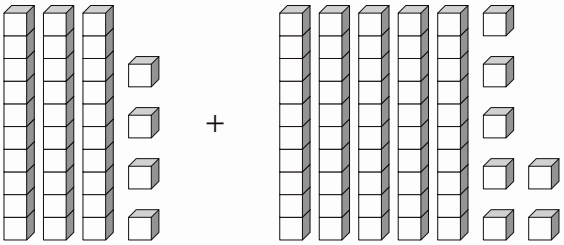
49 + 43 = □

c) Complete the addition.



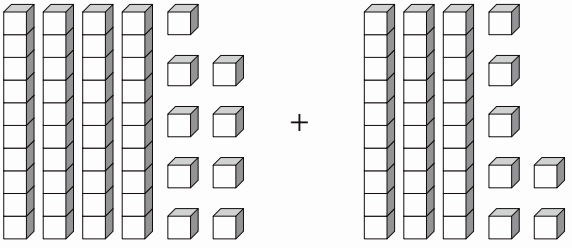
□ + □ = □

d) Complete the addition.



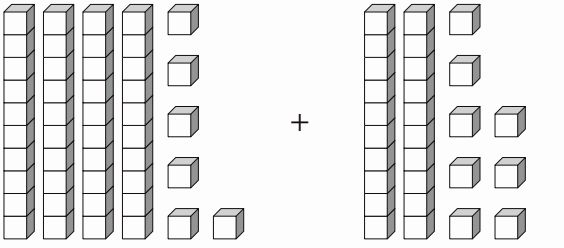
□ + □ = □

e) Complete the addition.



□ + □ = □

f) Complete the addition.



□ + □ = □

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Skill 2.11 Subtracting the numbers from 1 to 10 represented by pictures, by counting back (1).

- Look at the number you need to subtract.
- Cross this amount.
- Count the remaining objects to complete the subtraction.

Q. Take away 4.

$\square - \square = \square$

A. ***7 – 4 = 3***

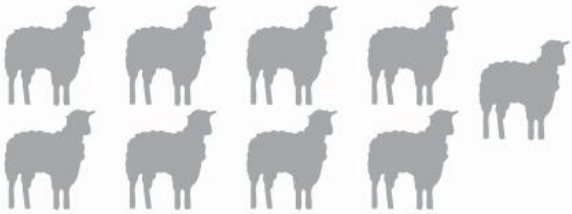
a) Complete the subtraction.

$6 - 2 = \square$

b) Complete the subtraction.

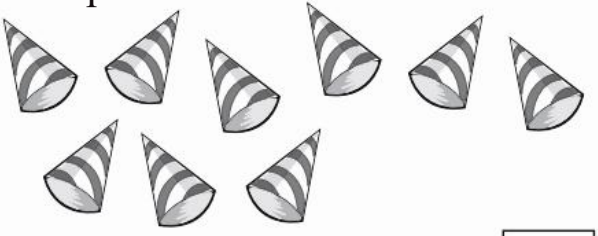
$5 - 3 = \square$

c) Complete the subtraction.



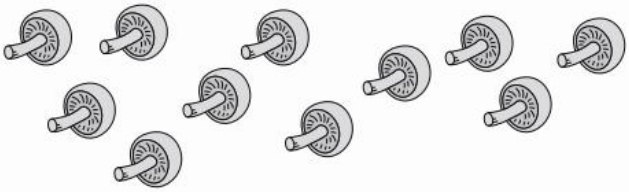
$9 - 3 = \square$

d) Complete the subtraction.



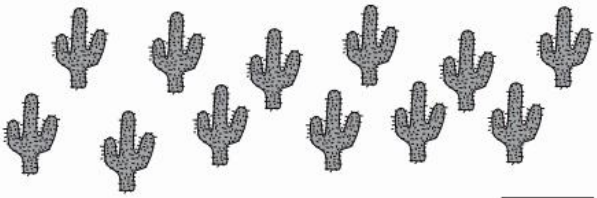
$9 - 8 = \square$

e) Take away 8.



$11 - 8 = \square$

f) Take away 7.



$12 - 7 = \square$

g) Take away 5.

$\square - \square = \square$

h) Take away 6.

$\square - \square = \square$

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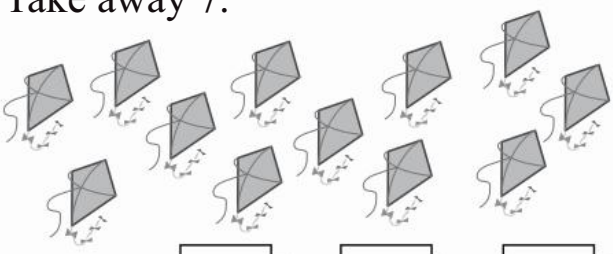
Skill 2.11 Subtracting the numbers from 1 to 10 represented by pictures, by counting back (2).

i) Take away 6.

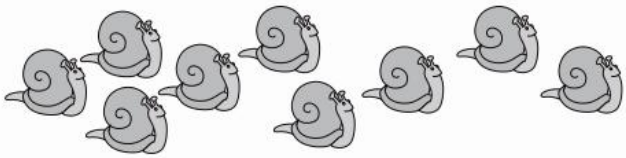
□ – □ = □

j) Take away 7.



□ – □ = □

k) Take away 3.

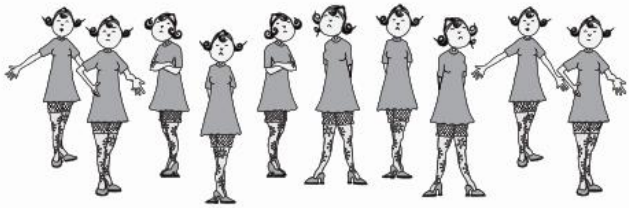


□ – □ = □

l) Take away 4.

□ – □ = □

m) Take away 7.

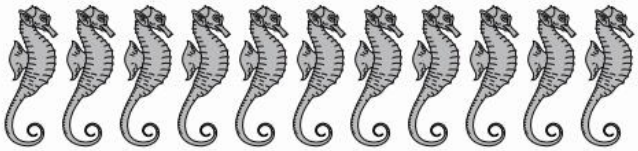


□ – □ = □

n) Take away 6.

□ – □ = □

o) Take away 6.

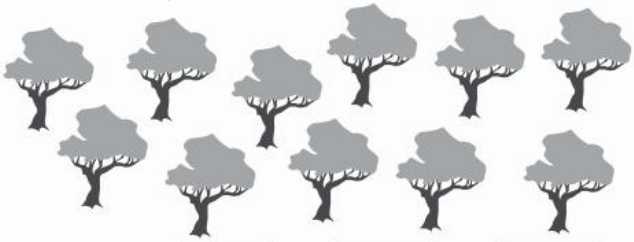


□ – □ = □

p) Take away 8.

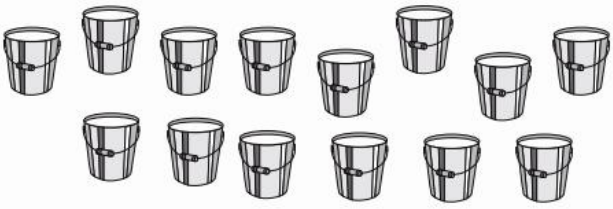
□ – □ = □

q) Take away 2.



□ – □ = □

r) Take away 9.



□ – □ = □

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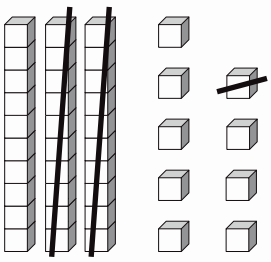
Skill 2.12 Subtracting 1-digit and 2-digit numbers by using base 10 blocks, no trading (1).

EITHER
- Count the total number of blocks.
- Cross off the number of blocks to be subtracted.
- Count the remaining blocks to complete the subtraction.

OR
- Count the total number of blocks. Write your answer in the first box.
- Count the blocks that have been crossed off. Write your answer in the box after the subtraction sign.
- Count the remaining blocks to complete the subtraction.

Q. Complete the subtraction.

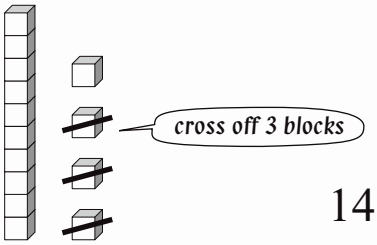


□ − □ = □

A. ***39 – 21 = 18***

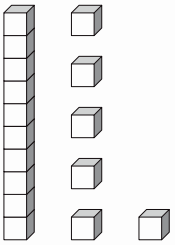
The total number of blocks is 39.
The number of blocks that have been crossed off is 21.
The number of remaining blocks is 18.

a) Complete the subtraction.



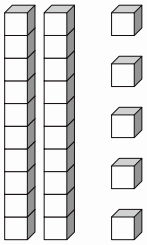
14 – 3 = □

b) Complete the subtraction.



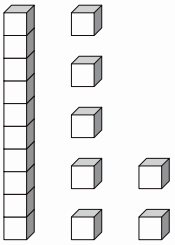
16 – 2 = □

c) Complete the subtraction.



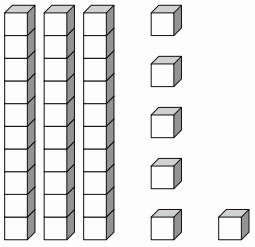
25 – 4 = □

d) Complete the subtraction.



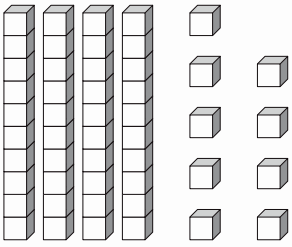
17 – 5 = □

e) Complete the subtraction.



36 – 14 = □

f) Complete the subtraction.



49 – 17 = □

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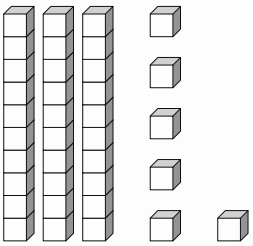
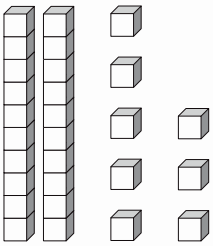
Skill 2.12 Subtracting 1-digit and 2-digit numbers by using base 10 blocks, no trading (2).

g) Complete the subtraction.



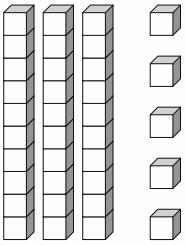
36 – 13 = ☐

h) Complete the subtraction.



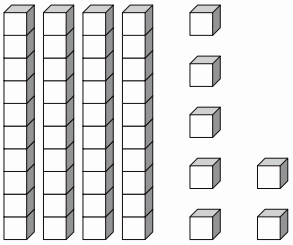
28 – 16 = ☐

i) Complete the subtraction.



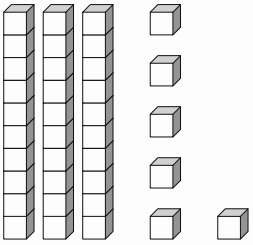
35 – 14 = ☐

j) Complete the subtraction.



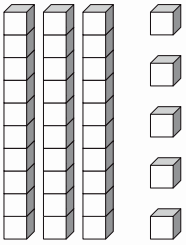
47 – 15 = ☐

k) Complete the subtraction.



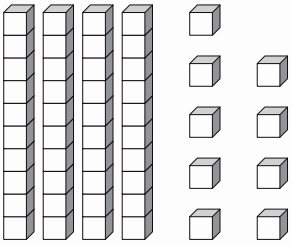
36 – 22 = ☐

l) Complete the subtraction.



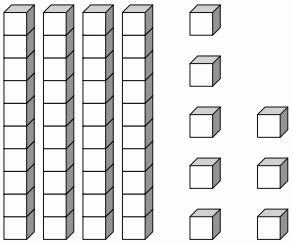
35 – 24 = ☐

m) Complete the subtraction.



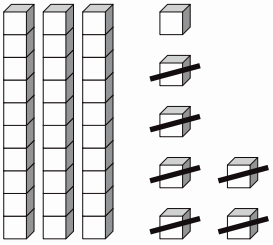
49 – 13 = ☐

n) Complete the subtraction.



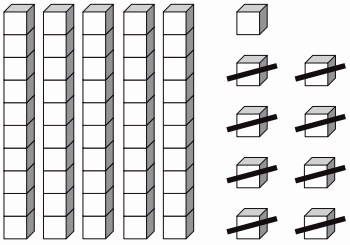
48 – 27 = ☐

o) Complete the subtraction.



☐ – ☐ = ☐

p) Complete the subtraction.



☐ – ☐ = ☐

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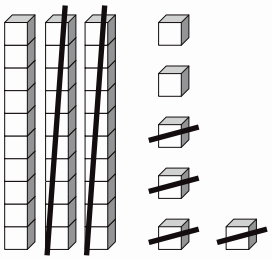
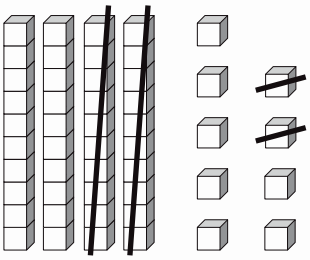
Skill 2.12 Subtracting 1-digit and 2-digit numbers by using base 10 blocks, no trading (3).

q) Complete the subtraction.



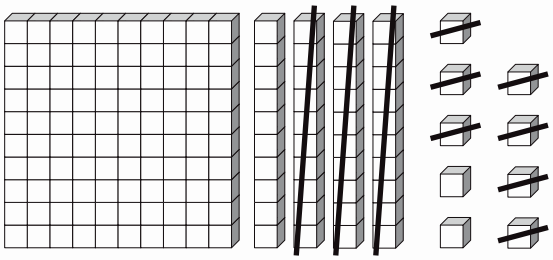
□ − □ = □

r) Complete the subtraction.



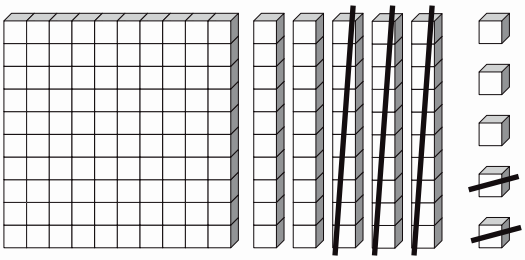
□ − □ = □

s) Complete the subtraction.



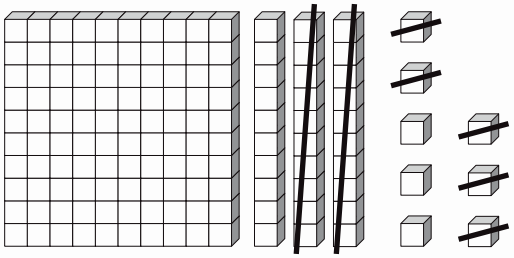
□ − □ = □

t) Complete the subtraction.



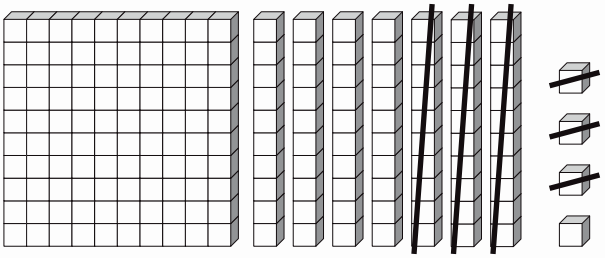
□ − □ = □

u) Complete the subtraction.



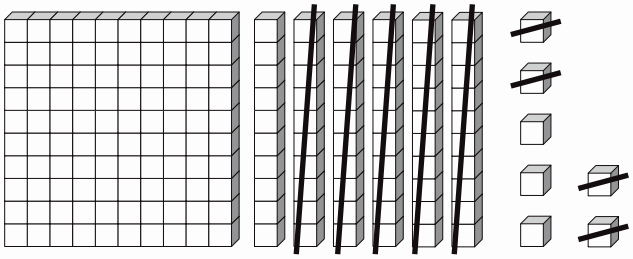
□ − □ = □

v) Complete the subtraction.



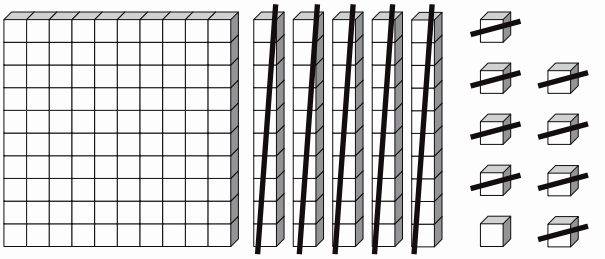
□ − □ = □

w) Complete the subtraction.



□ − □ = □

x) Complete the subtraction.



□ − □ = □

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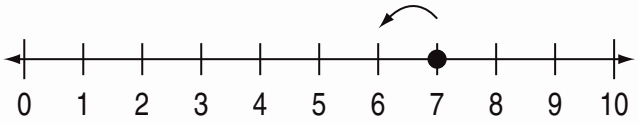
Skill 2.13 Subtracting the numbers from 1 to 10 by counting backwards on a number line (1).

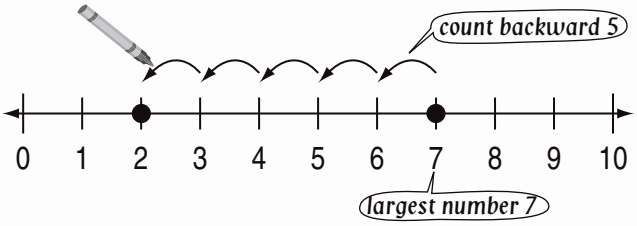
- Mark the first number in the subtraction on the number line.
- Use your pencil to count backwards the second number.

Q.

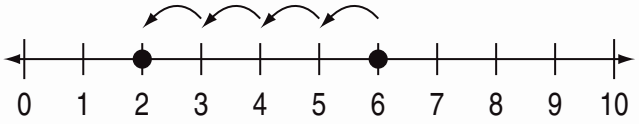


$7 - 5 =$ ☐

A. $7 - 5 = \mathbf{2}$

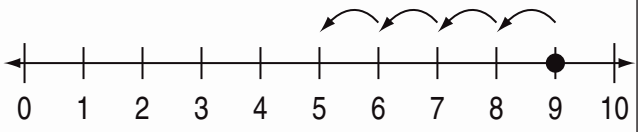


a)



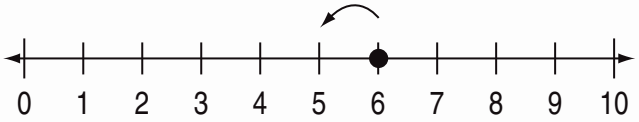
$6 - 4 =$ ☐

b)



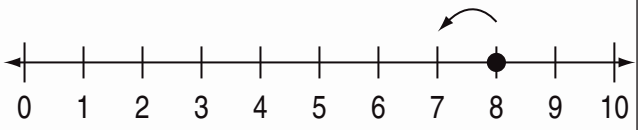
$9 - 4 =$ ☐

c)



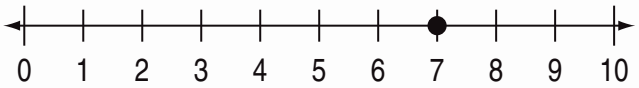
$6 - 3 =$ ☐

d)



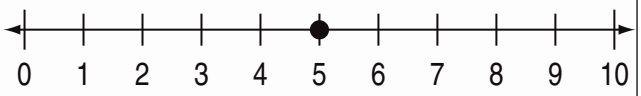
$8 - 5 =$ ☐

e)



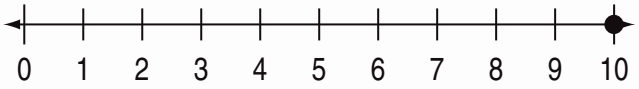
$7 - 3 =$ ☐

f)



$5 - 4 =$ ☐

g)

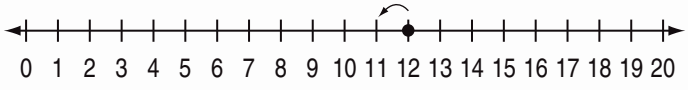


$10 - 7 =$ ☐

h)

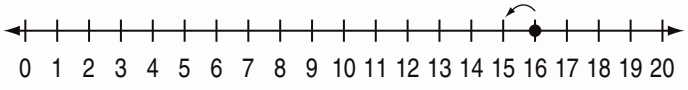
$9 - 8 =$ ☐

i)



$12 - 5 =$ ☐

j)



$16 - 9 =$ ☐

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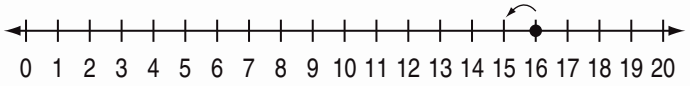
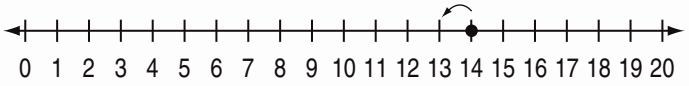
Skill 2.13 Subtracting the numbers from 1 to 10 by counting backwards on a number line (2).

k)



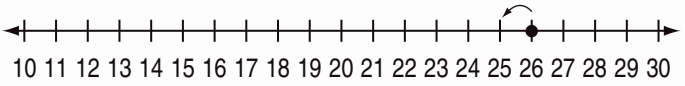
$16 - 8 =$ ☐

l)



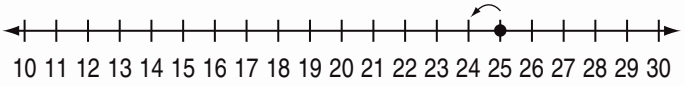
$14 - 6 =$ ☐

m)



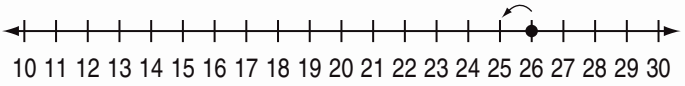
$26 - 9 =$ ☐

n)



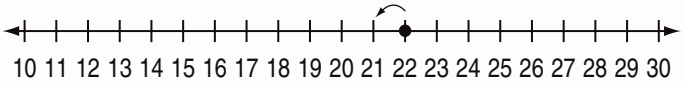
$25 - 4 =$ ☐

o)



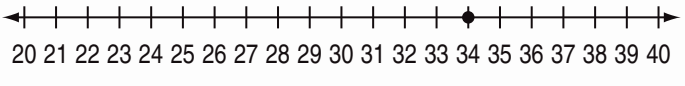
$26 - 7 =$ ☐

p)



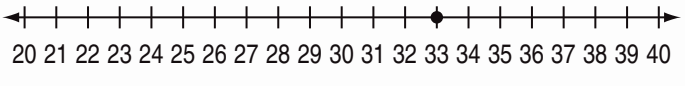
$22 - 5 =$ ☐

q)



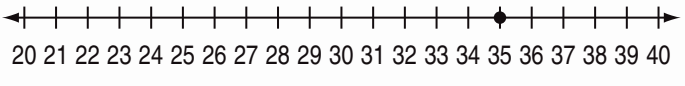
$34 - 8 =$ ☐

r)



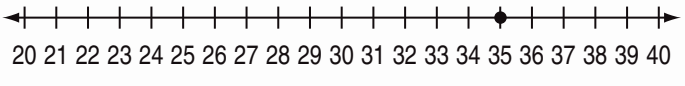
$33 - 9 =$ ☐

s)



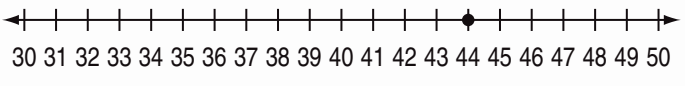
$35 - 6 =$ ☐

t)



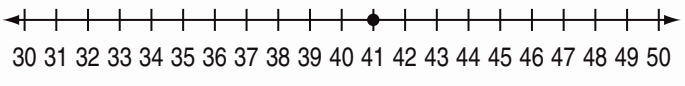
$35 - 7 =$ ☐

u)



$44 - 7 =$ ☐

v)



$41 - 6 =$ ☐

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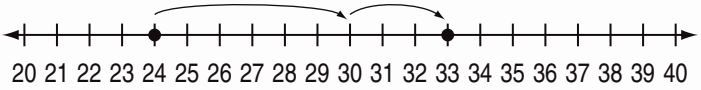
Skill 2.14 Subtracting 1-digit and 2-digit numbers by first building up to the nearest multiple of 10 on a number line (1).

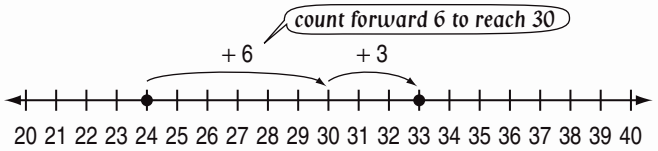
- Mark the smallest number in the subtraction on the number line.
- Count on to the nearest 10.
- Then count on to the total. (Repeat if necessary)
- Add the totals.
- Check the subtraction by counting backwards from the largest number.

Q. How much must be added to 24 to make 33?



33 – 24 = ☐

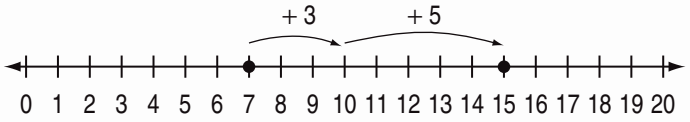
A. *33 – 24*
= 6 + 3
*= **9***



6 units from 24 to 30.
3 units from 30 to 33.

Check that counting backwards 9 from 33 is 24.

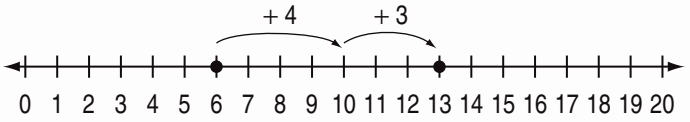
a) How much must be added to 7 to make 15?



15 – 7 =

3 + 5 = ☐

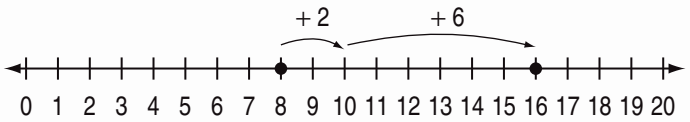
b) How much must be added to 6 to make 13?



13 – 6 =

= ☐

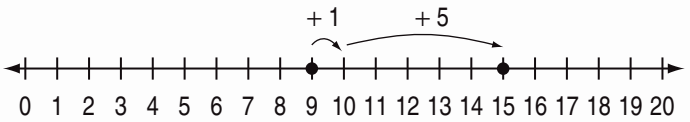
c) How much must be added to 8 to make 16?



16 – 8 =

= ☐

d) How much must be added to 9 to make 15?



15 – 9 =

= ☐

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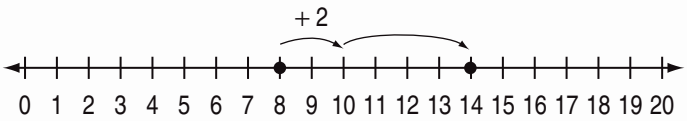
Skill 2.14 Subtracting 1-digit and 2-digit numbers by first building up to the nearest multiple of 10 on a number line (2).

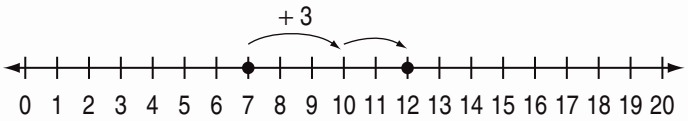
e) How much must be added to 8 to make 14?



14 – 8 =

..... = ☐

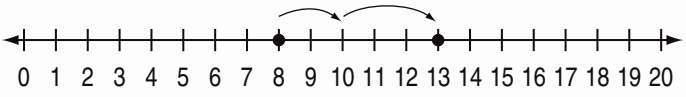
f) How much must be added to 7 to make 12?



12 – 7 =

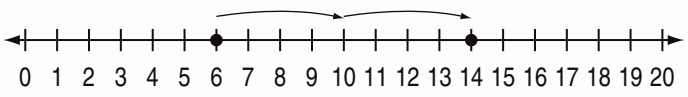
..... = ☐

g) How much must be added to 8 to make 13?



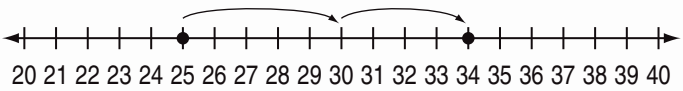
13 – 8 = ☐

h) How much must be added to 6 to make 14?



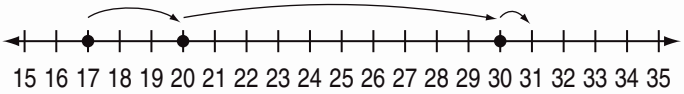
14 – 6 = ☐

i) How much must be added to 25 to make 34?



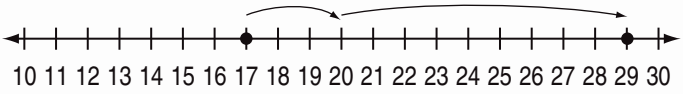
34 – 25 = ☐

j) How much must be added to 17 to make 31?



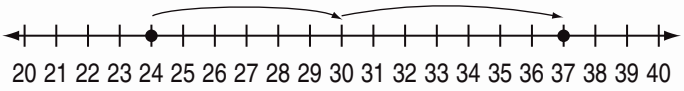
31 – 17 = ☐

k) How much must be added to 17 to make 29?



29 – 17 = ☐

l) How much must be added to 24 to make 37?



37 – 24 = ☐

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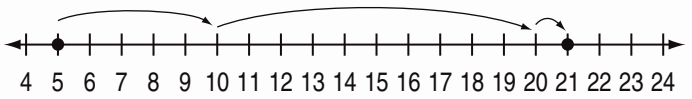
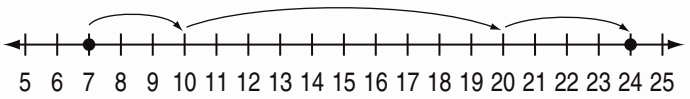
Skill 2.14 Subtracting 1-digit and 2-digit numbers by first building up to the nearest multiple of 10 on a number line (3).

m) How much must be added to 5 to make 21?



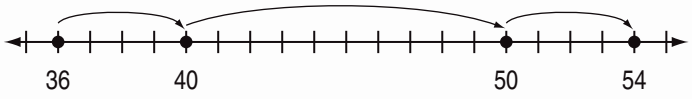
$21 - 5 = \square$

n) How much must be added to 7 to make 24?



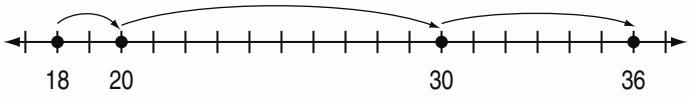
$24 - 7 = \square$

o) Subtract by first building up from 36 to 40.



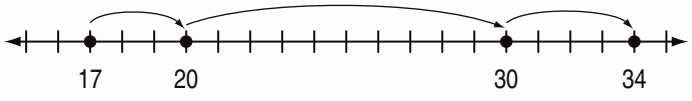
$54 - 36 = \square$

p) Subtract by first building up from 18 to 20.



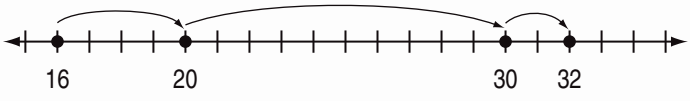
$36 - 18 = \square$

q) Subtract by first building up from 17 to 20.



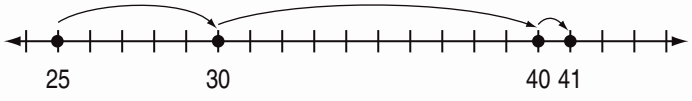
$34 - 17 = \square$

r) Subtract by first building up from 16 to 20.



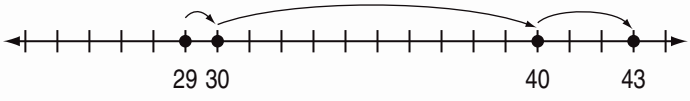
$32 - 16 = \square$

s) Subtract by first building up from 25 to 30.



$41 - 25 = \square$

t) Subtract by first building up from 29 to 30.



$43 - 29 = \square$

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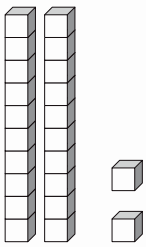
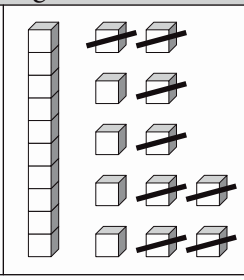
Skill 2.15 Subtracting the numbers from 1 to 10 from 2-digit numbers with smaller unit values, by trading with base 10 blocks (1).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

Note: The trading of 1 long (from the left) for 10 minis (on the right) is shown in the table.
Note: The crossing of the subtracted number of blocks is also shown.

- Count the number of remaining blocks on the right.

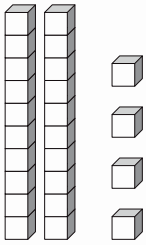
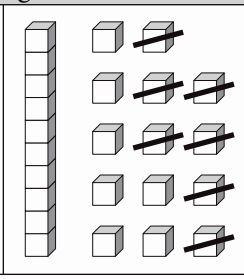
Q. Complete the subtraction.

Trade 1 long for 10 minis	
	

$22 - 8 =$ ☐

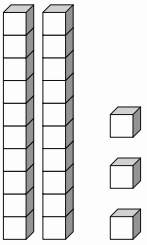
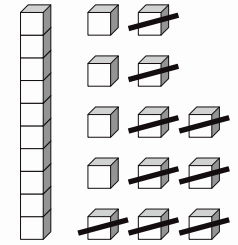
A. $22 - 8 =$ ***14***

a) Complete the subtraction.

Trade 1 long for 10 minis	
	

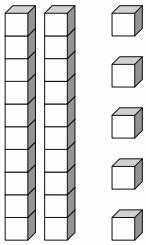
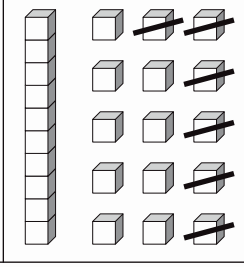
$24 - 7 =$ ☐

b) Complete the subtraction.

Trade 1 long for 10 minis	
	

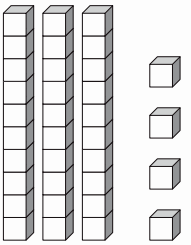
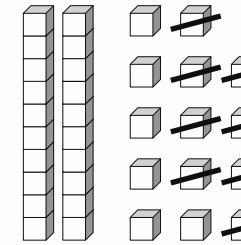
$23 - 9 =$ ☐

c) Complete the subtraction.

Trade 1 long for 10 minis	
	

$25 - 6 =$ ☐

d) Complete the subtraction.

Trade 1 long for 10 minis	
	

$34 - 8 =$ ☐

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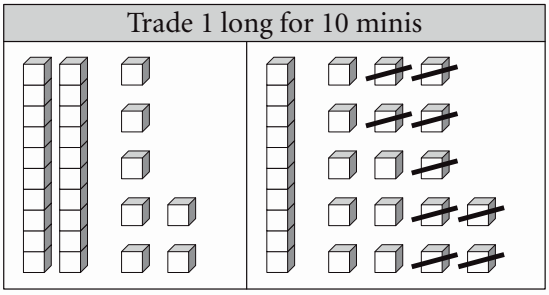
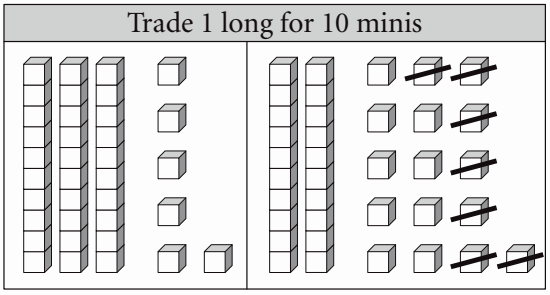
Skill 2.15 Subtracting the numbers from 1 to 10 from 2-digit numbers with smaller unit values, by trading with base 10 blocks (2).

e) Complete the subtraction.



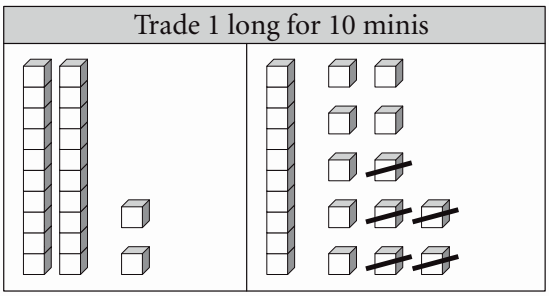
27 – 9 = ☐

f) Complete the subtraction.



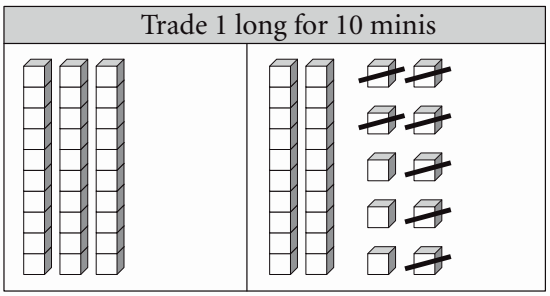
36 – 7 = ☐

g) Complete the subtraction.



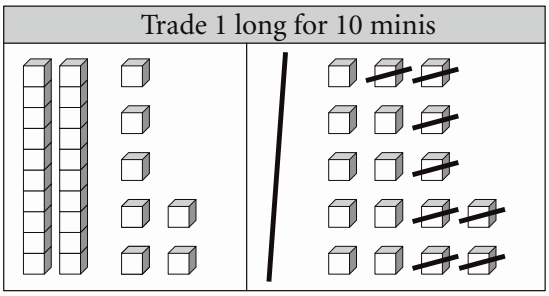
22 – 5 = ☐

h) Complete the subtraction.



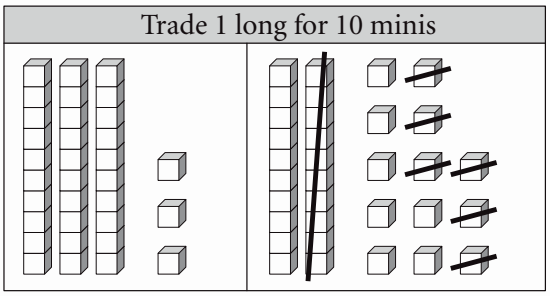
30 – 7 = ☐

i) Complete the subtraction.



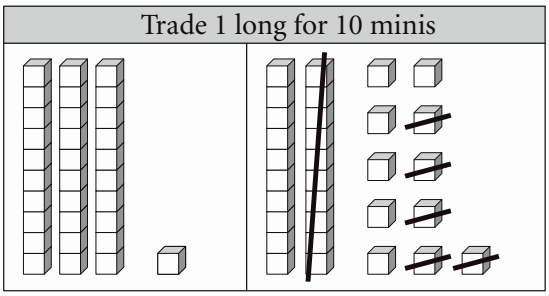
27 – 18 = ☐

j) Complete the subtraction.



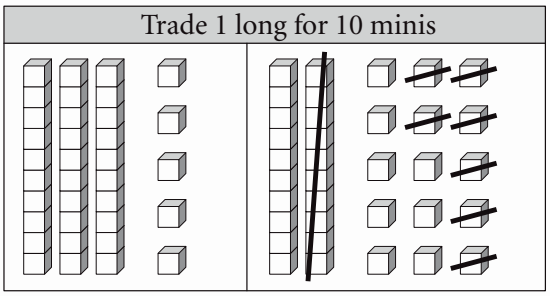
33 – 16 = ☐

k) Complete the subtraction.



31 – 15 = ☐

l) Complete the subtraction.



35 – 17 = ☐

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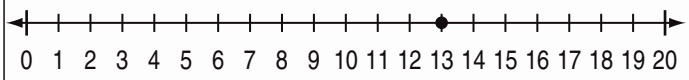
Skill 2.16 Relating addition and subtraction facts.

- Notice the arrangement of numbers in both the sum and the subtraction.
  Use the sum to find the missing number in the subtraction.
- Check that the missing number is the result using the number line.

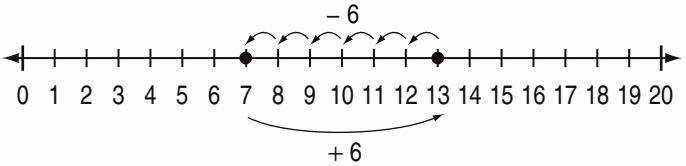
Q.



$7 + 6 = 13$

$13 - \square = 7$

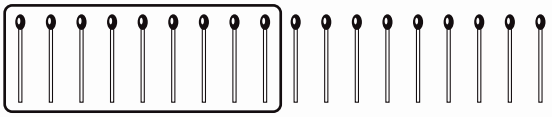
A. $13 - \mathbf{6} = 7$



$7 + 6 = 13$

$13 - ? = 7$

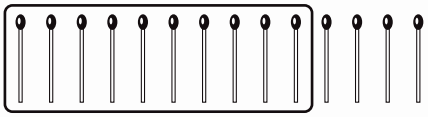
a)



$9 + \square = 18$

$18 - 9 = \square$

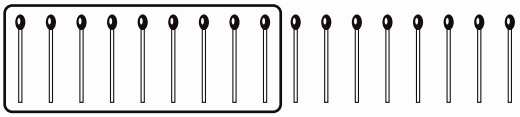
b)



$10 + \square = 14$

$14 - 10 = \square$

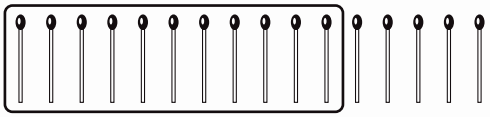
c)



$9 + \square = 17$

$17 - 9 = \square$

d)



$11 + \square = 16$

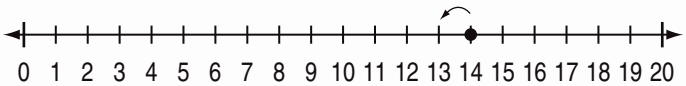
$16 - 11 = \square$

e)

$5 + 6 = 11$

$11 - 6 = \square$

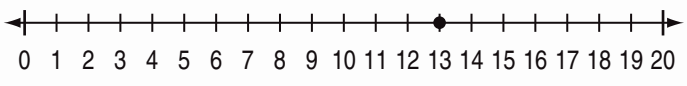
f)



$6 + 8 = 14$

$14 - \square = 6$

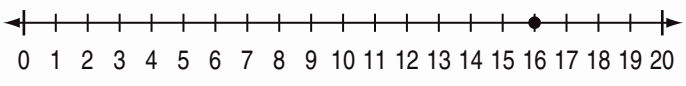
g)



$9 + 4 = 13$

$13 - \square = 9$

h)



$9 + 7 = 16$

$16 - 7 = \square$

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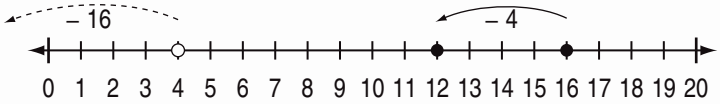
Skill 2.17 Modelling facts for subtraction on a number line.

- Use the number line to do both subtractions.
- If the results are equal, then the fact is true.
  Hint: When subtracting two numbers, the order of the numbers cannot be reversed to get the same result.

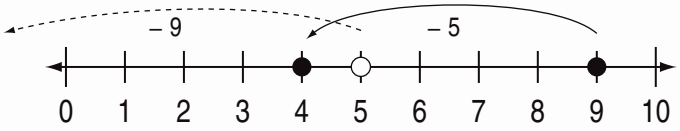
Q.



16 – 4 = 4 – 16
True or false?

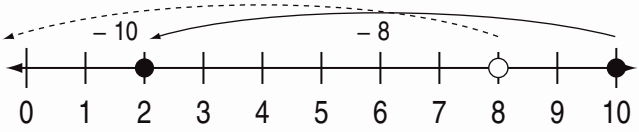
A. ***false***

a)



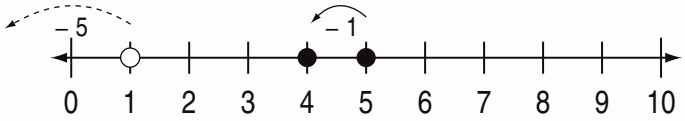
9 – 5 = 5 – 9
True or false?

b)



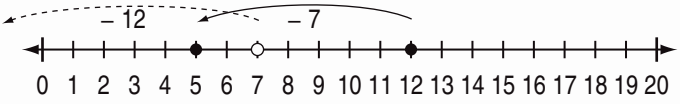
10 – 8 = 8 – 10
True or false?

c)



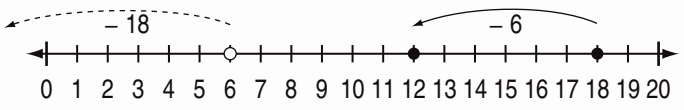
5 – 1 = 1 – 5
True or false?

d)



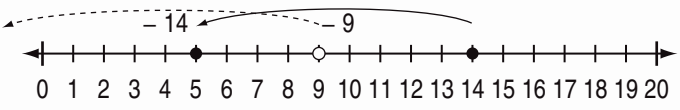
12 – 7 = 7 – 12
True or false?

e)



18 – 6 = 6 – 18
True or false?

f)



14 – 9 = 9 – 14
True or false?

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3. [Multiplication / Division]

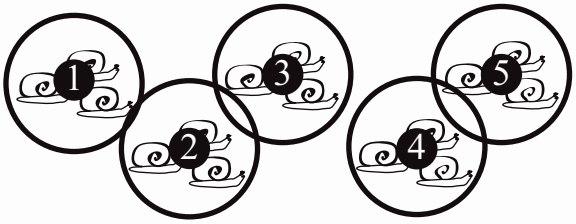
Skill 3.1 Recognising and counting groups of equal numbers of objects.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Find identical groups.
- Count the number of identical groups.

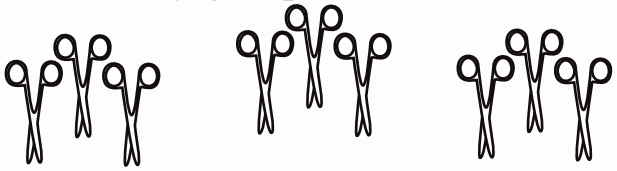
Q. How many groups of 3 snails?

A. ***5***

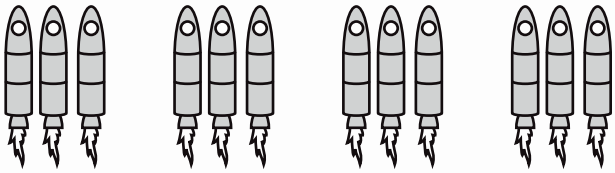


a) How many groups of 4 balls?

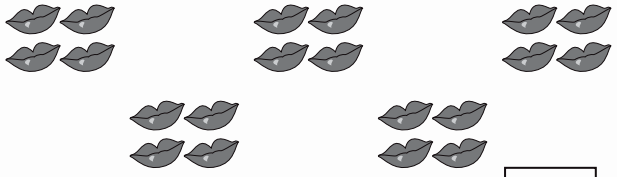
b) How many groups of 3 scissors?



c) How many groups of 3 rockets?

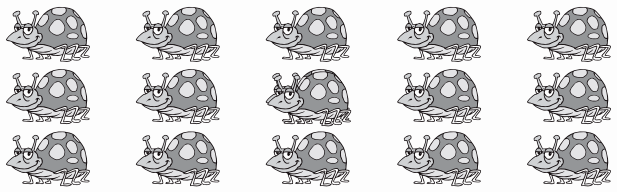


d) How many groups of 4 mouths?



e) How many groups of 6 stars?

f) How many groups of 3 bugs?



g) How many groups of 3 birds?

h) How many groups of 5 chickens?

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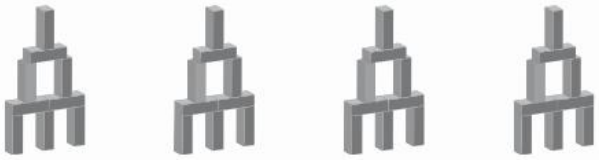
Skill 3.2 Counting equal groups and objects in a group (1).

- Count the number of groups.
- Count the number of objects in each group.

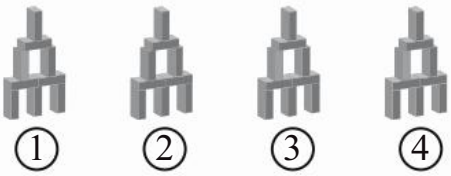
Q. Fill in the gaps.



[ ] groups of [ ] blocks =

[blocks]

A. *4 groups of 9 blocks =*
= 36 blocks



There are 4 groups.
Each group has 9 blocks.

a) Fill in the gaps.

3 groups of 8 slices =

[slices]

b) Fill in the gaps.

[ ] groups of [ ] pencils =

[pencils]

c) Fill in the gaps.

[ ] groups of [ ] stacks =

[stacks]

d) Fill in the gaps.

[ ] groups of [ ] peas =

[peas]

e) Fill in the gaps.

[ ] groups of [ ] sails =

[sails]

f) Fill in the gaps.

[ ] groups of [ ] toes =

[toes]

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g) Fill in the gaps.

☐ groups of ☐ blades = ☐ blades

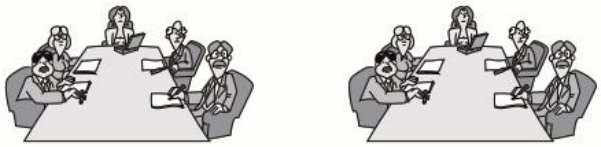
h) Fill in the gaps.

☐ groups of ☐ lenses = ☐ lenses

i) Fill in the gaps.

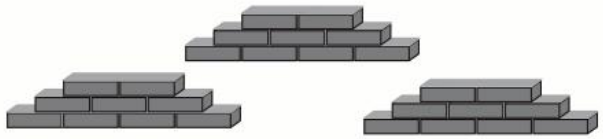
☐ groups of ☐ paints = ☐ paints

j) Fill in the gaps.



☐ groups of ☐ people = ☐ people

k) Fill in the gaps.



☐ groups of ☐ bricks = ☐ bricks

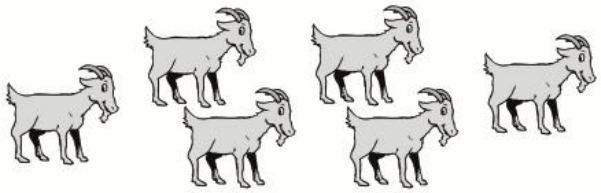
l) Fill in the gaps.

☐ groups of ☐ books = ☐ books

m) Fill in the gaps.

☐ groups of ☐ keys = ☐ keys

n) Fill in the gaps.



☐ groups of ☐ legs = ☐ legs

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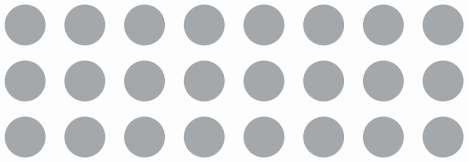
- Count the total number of shapes in the array.

OR

- Use counting by the number of rows or by the number of columns.

Q. Complete the multiplication.



3 rows of 8 =

□ × □ = □

A. ***3 × 8 = 24***

3 rows of 8 = 3 × 8 = 24 or
8 columns of 3 = 8 × 3 = 24
OR
Count by 3s eight times:
3, 6, 9, 12, 15, 18, 21, 24

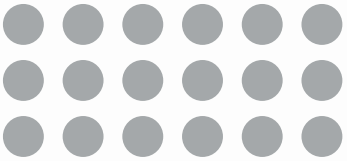
8 times

a) Complete the multiplication.

2 rows of 3 =

2 × 3 = □

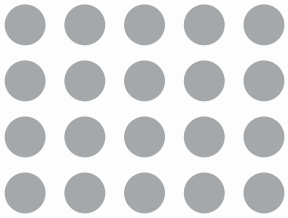
b) Complete the multiplication.



3 rows of 6 =

3 × 6 = □

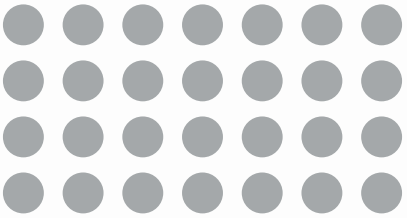
c) Complete the multiplication.



4 rows of 5 =

4 × 5 = □

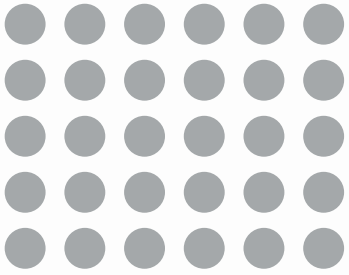
d) Complete the multiplication.



4 rows of 7 =

4 × 7 = □

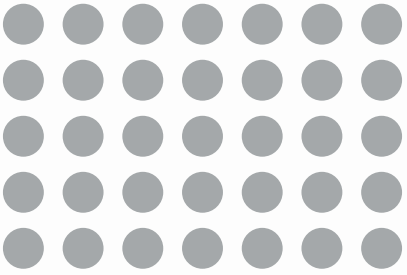
e) Complete the multiplication.



5 rows of 6 =

□ × □ = □

f) Complete the multiplication.



5 rows of 7 =

□ × □ = □

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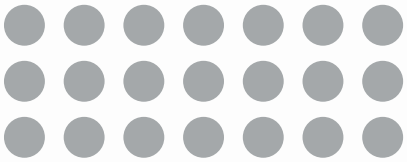
g) Complete the multiplication.

2 rows of 5 =

□ × □ = □

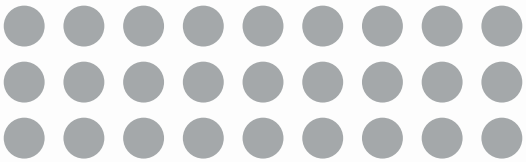
h) Complete the multiplication.



3 rows of 7 =

□ × □ = □

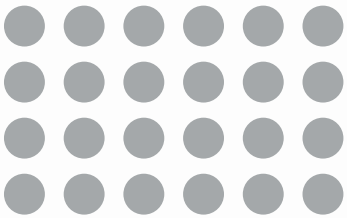
i) Complete the multiplication.



3 rows of 9 =

□ × □ = □

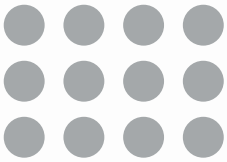
j) Complete the multiplication.



4 rows of 6 =

□ × □ = □

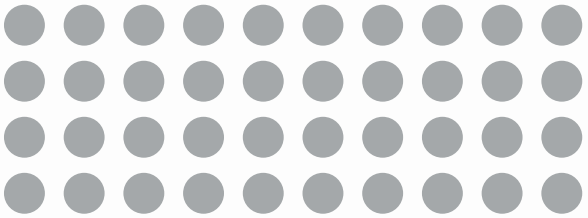
k) Complete the multiplication.



3 rows of 4 =

□ × □ = □

l) Complete the multiplication.



4 rows of 10 =

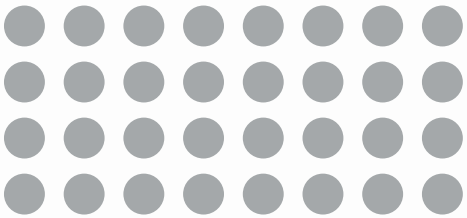
□ × □ = □

m) Complete the multiplication.

2 rows of 6 =

□ × □ = □

n) Complete the multiplication.



4 rows of 8 =

□ × □ = □

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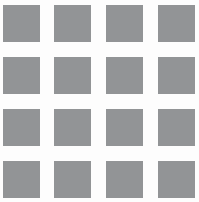
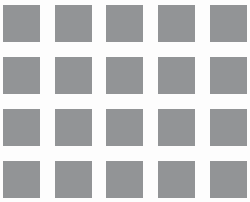
o) Complete the multiplication.



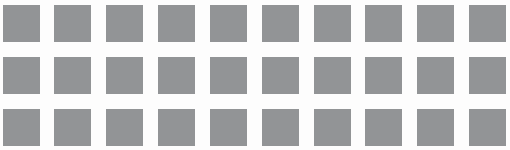
$4 \times 4 =$ ☐

p) Complete the multiplication.



$4 \times 5 =$ ☐

q) Complete the multiplication.

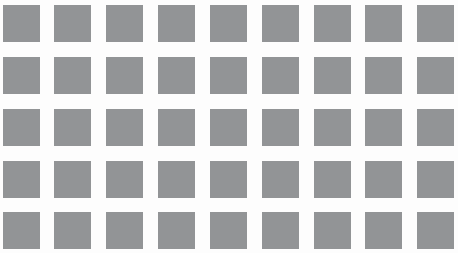


$3 \times 10 =$ ☐

r) Complete the multiplication.

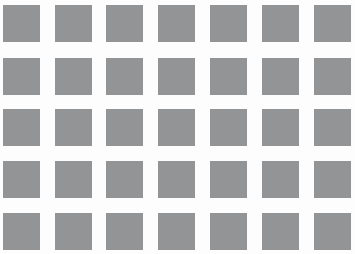
$2 \times 9 =$ ☐

s) Complete the multiplication.



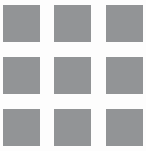
$5 \times 9 =$ ☐

t) Complete the multiplication.



$5 \times$ ☐ $=$ ☐

u) Complete the multiplication.

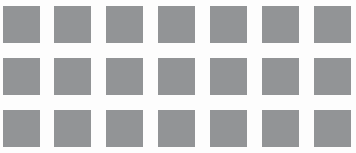


☐ $\times 3 =$ ☐

v) Complete the multiplication.

$2 \times$ ☐ $=$ ☐

w) Complete the multiplication.



☐ $\times 7 =$ ☐

x) Complete the multiplication.

☐ $\times 10 =$ ☐

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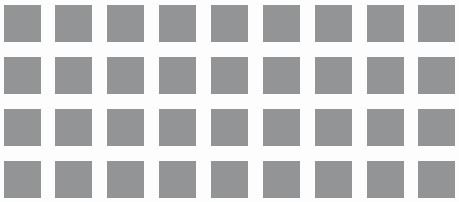
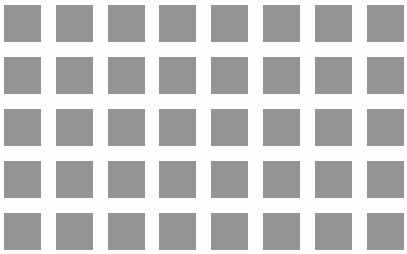
y) Complete the multiplication.



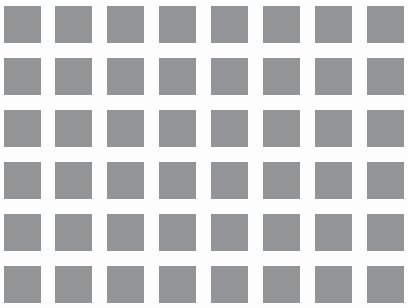
$\square \times 9 = \square$

z) Complete the multiplication.



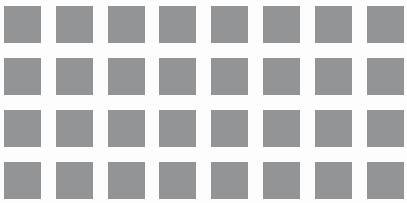
$5 \times \square = \square$

A) Complete the multiplication.



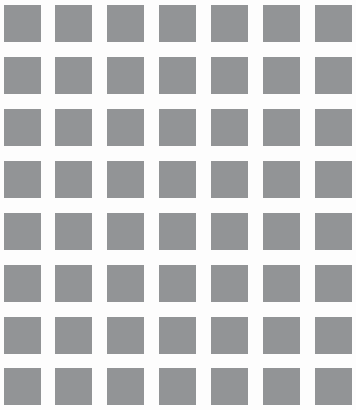
$6 \times \square = \square$

B) Complete the multiplication.



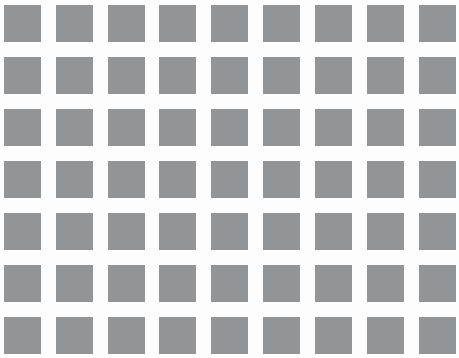
$\square \times 8 = \square$

C) Complete the multiplication.



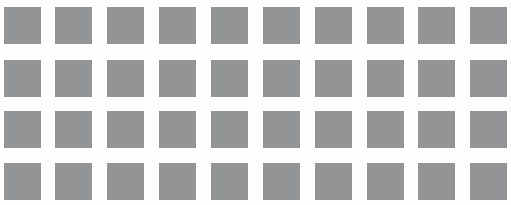
$8 \times \square = \square$

D) Complete the multiplication.



$\square \times 9 = \square$

E) Complete the multiplication.



$\square \times 10 = \square$

F) Complete the multiplication.

$5 \times \square = \square$

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Skill 3.4 Multiplying the numbers from 1 to 10 by using repetitive addition (1).

Repetitive addition

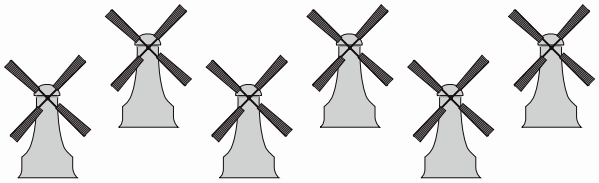
- Add the numbers in the repetitive addition.

Multiplication

- Count the number of objects.
- Add the number of parts of each object, the number of times needed.

Hint: Multiplication is a shortcut to repetitive addition.

Q.



$4 + 4 + 4 + 4 + 4 + 4 =$ ☐

$6 \times 4 =$ ☐

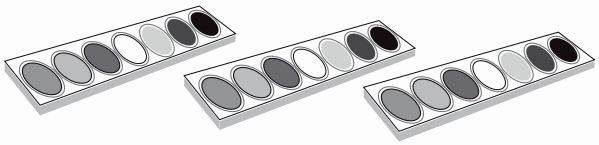
A. $4 + 4 + 4 + 4 + 4 + 4 = \mathbf{24}$

$6 \times 4 = \mathbf{24}$

$\underbrace{4 + 4 + 4 + 4 + 4 + 4}_{6 \text{ times}}$

$= 6 \times 4 = 24$

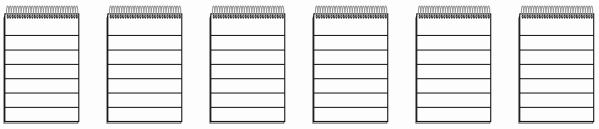
a)



$7 + 7 + 7 =$ ☐

$3 \times 7 =$ ☐

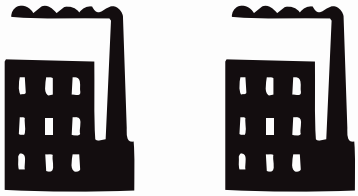
b)



$6 + 6 + 6 + 6 + 6 + 6 =$ ☐

$6 \times 6 =$ ☐

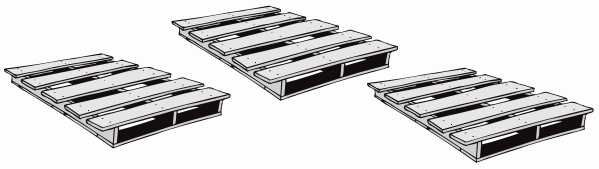
c)



$9 + 9 =$ ☐

$2 \times 9 =$ ☐

d)



$5 + 5 + 5 =$ ☐

$3 \times 5 =$ ☐

e)

$6 + 6 + 6 + 6 + 6 =$ ☐

$5 \times 6 =$ ☐

f)

$8 + 8 =$ ☐

$2 \times 8 =$ ☐

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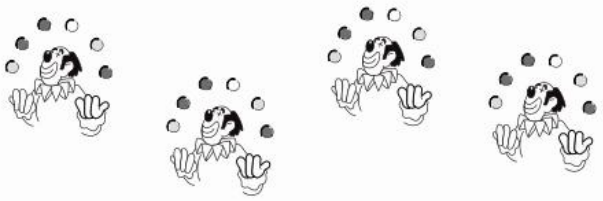
Skill 3.4 Multiplying the numbers from 1 to 10 by using repetitive addition (2).

g)

$3 + 3 + 3 + 3 + 3 + 3 + 3 =$ ☐

$7 \times 3 =$ ☐

h)



$6 + 6 + 6 + 6 =$ ☐

$4 \times 6 =$ ☐

i)

$6 + 6 + 6 =$ ☐

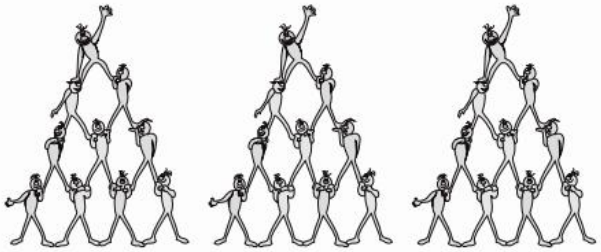
$3 \times 6 =$ ☐

j)

$7 + 7 =$ ☐

$2 \times 7 =$ ☐

k)



$10 + 10 + 10 =$ ☐

$3 \times 10 =$ ☐

l)

$3 + 3 + 3 =$ ☐

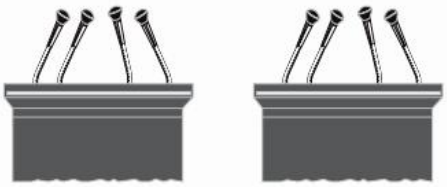
$3 \times 3 =$ ☐

m)

$5 + 5 + 5 + 5 =$ ☐

$4 \times 5 =$ ☐

n)



$4 + 4 =$ ☐

$2 \times 4 =$ ☐

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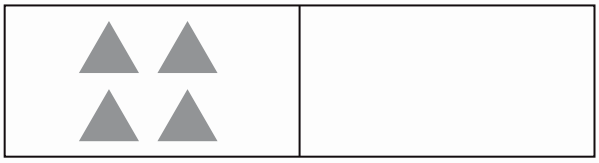
Skill 3.5 Doubling a number.

- Draw the same number of objects next to the given objects.
- Count the total number of objects.

OR

- Add the number to itself.

Q. Double this number of triangles by first drawing them.



$2 \times 4 = \square$

A. ***8***

4 doubled = 8

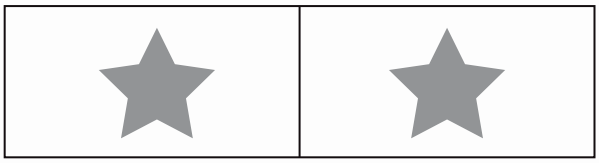
OR

2×4

$= 4 + 4$

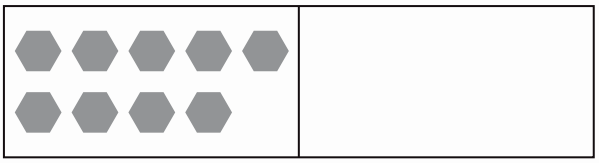
$= 8$

a) Double this number of stars by first drawing them.



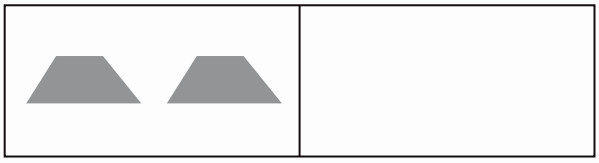
$2 \times 1 = \square$

b) Double this number of hexagons by first drawing them.



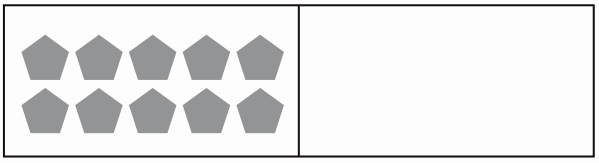
$2 \times 9 = \square$

c) Double this number of trapeziums by first drawing them.



$\square \times \square = \square$

d) Double this number of pentagons by first drawing them.



$\square \times \square = \square$

e) Double 7.

$2 \times 7 = \square$

f) Double 8.

$2 \times 8 = \square$

g) Double 6.

$\square \times \square = \square$

h) Double 3.

$\square \times \square = \square$

i) Double 10.

$\square \times \square = \square$

j) Double 12.

$\square \times \square = \square$

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Skill 3.6 Multiplying by 10 and 100 by using base 10 blocks (1).

By 10

- Count by 10s using base 10 blocks (1×10).

OR

- Add a zero to the end of the number that is being multiplied by 10.

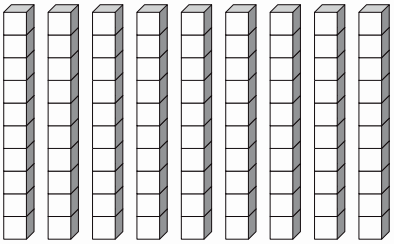
By 100

- Count by 100s using base 10 blocks (1×100).

OR

- Add two zeros to the end of the number that is being multiplied by 100.

Q. Complete the multiplication.

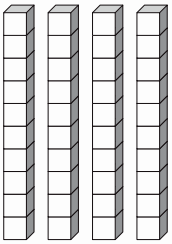


$9 \times 10 =$ ☐

A. ***90***

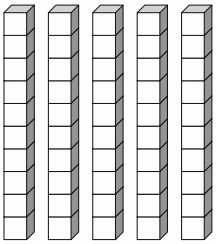
Count by 10s nine times:
10, 20, 30, 40, 50, 60, 70, 80, 90
OR
9×10
$= 90$ *add a zero to the 9*

a) Complete the multiplication.



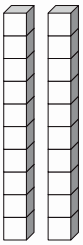
4 lots of 10 = ☐

b) Complete the multiplication.



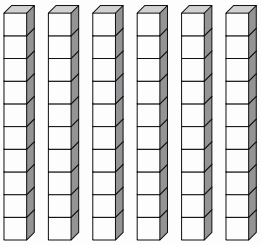
5 lots of 10 = ☐

c) Complete the multiplication.



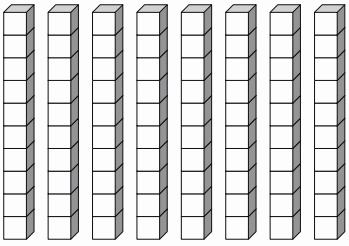
2 lots of 10 = ☐

d) Complete the multiplication.



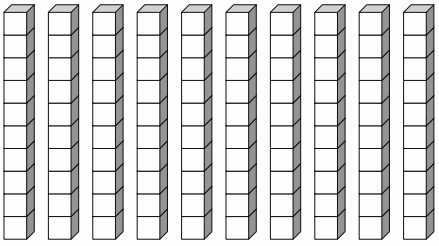
6 lots of 10 = ☐

e) Complete the multiplication.



$8 \times 10 =$ ☐

f) Complete the multiplication.



$10 \times 10 =$ ☐

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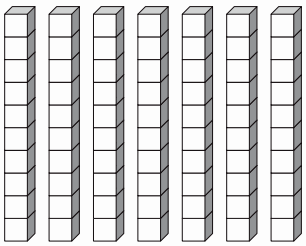
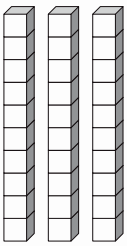
g) Complete the multiplication.



$7 \times 10 =$ ☐

h) Complete the multiplication.



$3 \times 10 =$ ☐

i) Complete the multiplication.

$8 \times 10 =$ ☐

j) Complete the multiplication.

$11 \times 10 =$ ☐

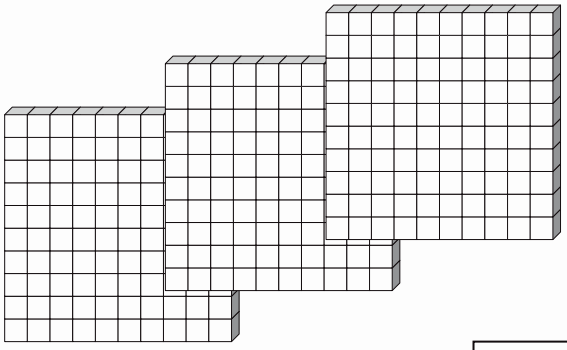
k) Complete the multiplication.

$25 \times 10 =$ ☐

l) Complete the multiplication.

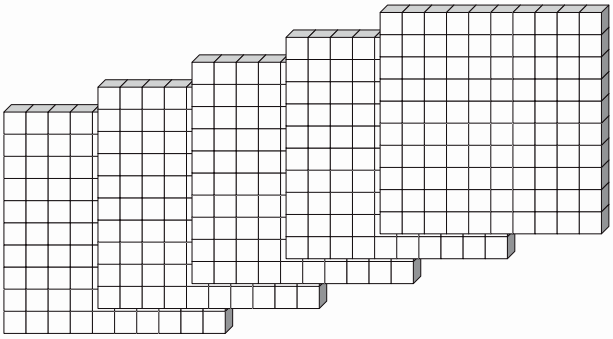
$33 \times 10 =$ ☐

m) Complete the multiplication.



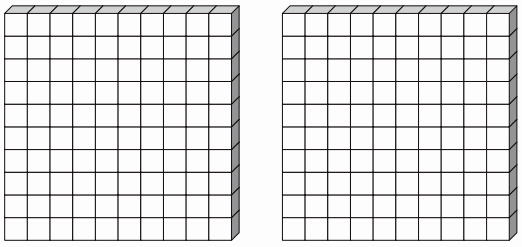
$3 \times 100 =$ ☐

n) Complete the multiplication.



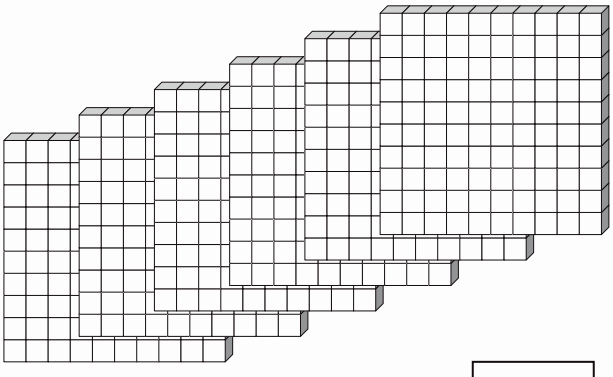
$5 \times 100 =$ ☐

o) Complete the multiplication.



$2 \times 100 =$ ☐

p) Complete the multiplication.



$6 \times 100 =$ ☐

q) Complete the multiplication.

$9 \times 100 =$ ☐

r) Complete the multiplication.

$12 \times 100 =$ ☐

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Skill 3.7 Multiplying the numbers from 1 to 10 by using multiplication tables (1).

- Follow the shaded lines from the numbers to be multiplied, moving down and across.
- Read the number where the shaded lines meet.

Q. Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$6 \times 10 =$ ☐

A. ***60***

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

a) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$5 \times 8 =$ ☐

b) Complete thzation.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$2 \times 9 =$ ☐

c) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$4 \times 6 =$ ☐

d) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$6 \times 9 =$ ☐

e) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$8 \times 4 =$ ☐

f) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$7 \times 7 =$ ☐

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Skill 3.7 Multiplying the numbers from 1 to 10 by using multiplication tables (2).

g) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$5 \times 6 =$ ☐

h) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$5 \times 9 =$ ☐

i) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$3 \times 7 =$ ☐

j) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$9 \times 3 =$ ☐

k) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$6 \times 7 =$ ☐

l) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$8 \times 8 =$ ☐

m) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$9 \times 8 =$ ☐

n) Complete the multiplication.

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

$3 \times 10 =$ ☐

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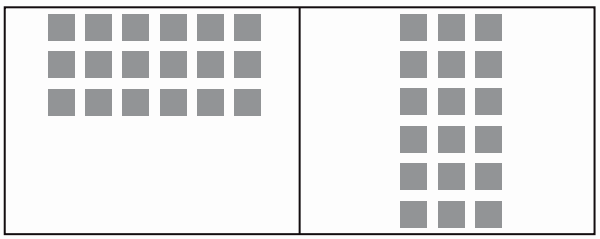
Skill 3.8 Modelling the commutative property for multiplication by using arrays.

- Count the number of rows and the number of columns on both sides of the table.
  Hint: When multiplying two numbers, the order of the numbers can be reversed.

Q.

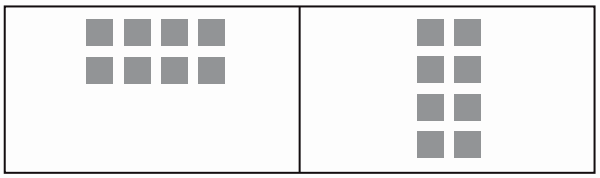


$3 \times \square = 6 \times 3$

A. $3 \times \mathbf{6} = 6 \times 3$

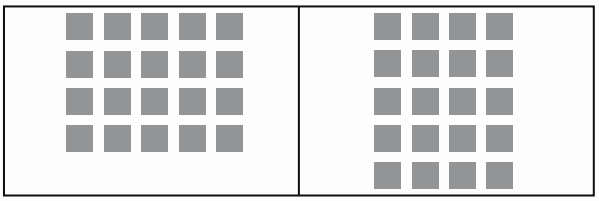
3 rows, 6 columns $\Rightarrow 3 \times 6 = 18$
6 rows, 3 columns $\Rightarrow 6 \times 3 = 18$
Equal number in array $\Rightarrow$ same result

a)



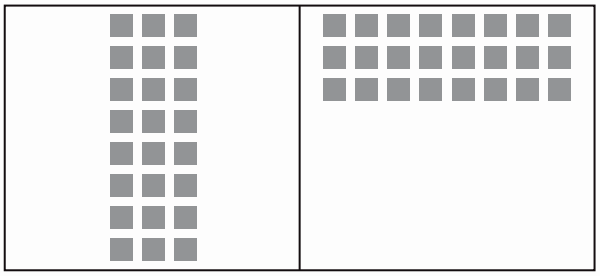
$2 \times \square = 4 \times 2$

b)



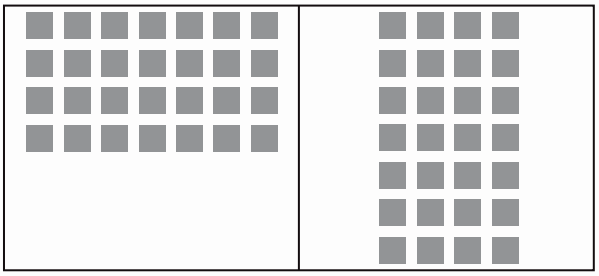
$4 \times 5 = \square \times 4$

c)



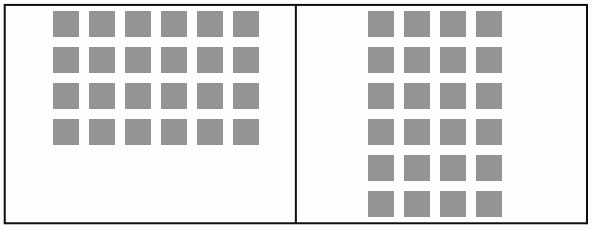
$8 \times \square = 3 \times 8$

d)



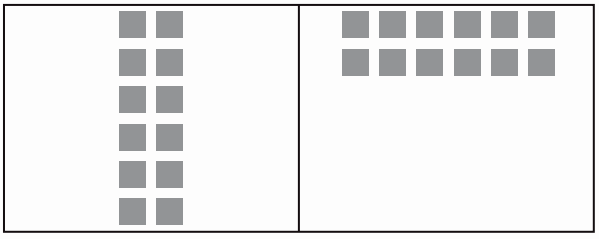
$4 \times 7 = \square \times 4$

e)



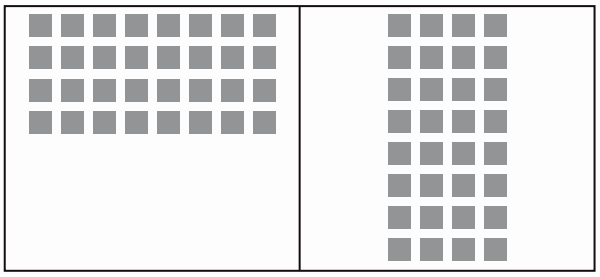
$4 \times \square = 6 \times 4$

f)



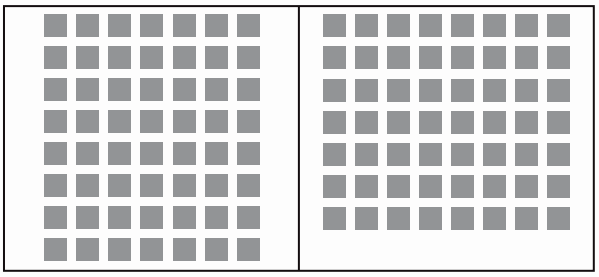
$\square \times 2 = 2 \times \square$

g)



$4 \times \square = \square \times 4$

h)



$\square \times 7 = 7 \times \square$

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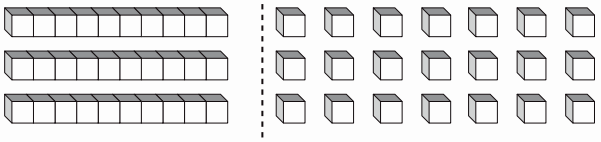
Skill 3.9 Modelling multiplication of numbers greater than 12 by a single digit, by using base 10 blocks.

- Find the total number of tens by counting the base 10 blocks (1×10).
- Find the total number of units by counting the base 10 blocks (1×1).
- Add the results to complete the multiplication of the number greater than 12.

Q.

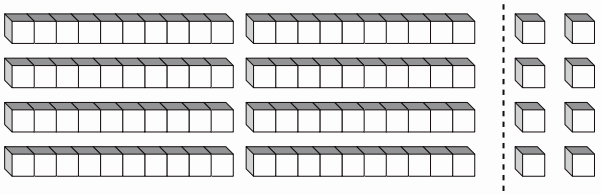


$3 \times 10 =$ ☐ $3 \times 7=$ ☐

$3 \times 17 =$ ☐

A. $3 \times 10 = \mathbf{30}$
$3 \times 7 = \mathbf{21}$
$30 + 21 = 51$
$3 \times 17 = \mathbf{51}$

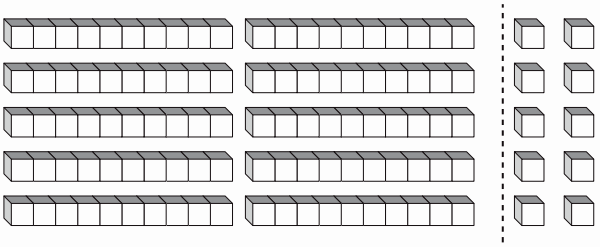
a)



$4 \times 20 =$ ☐ $4 \times 2 =$ ☐

$4 \times 22 =$ ☐

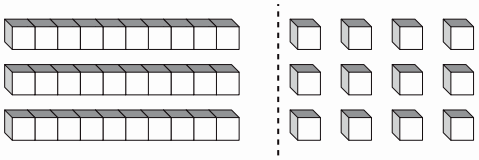
b)



$5 \times 20 =$ ☐ $5 \times 2 =$ ☐

$5 \times 22 =$ ☐

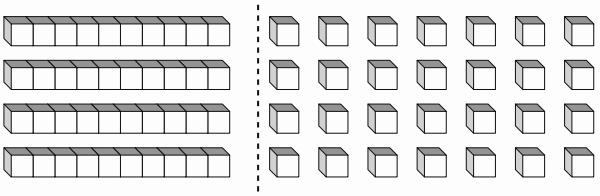
c)



$3 \times 10 =$ ☐ $3 \times 4 =$ ☐

$3 \times 14 =$ ☐

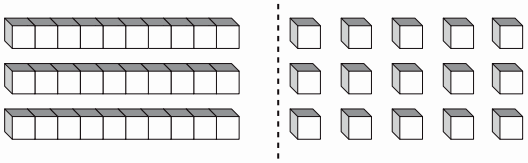
d)



$4 \times 10 =$ ☐ $4 \times 7 =$ ☐

$4 \times 17 =$ ☐

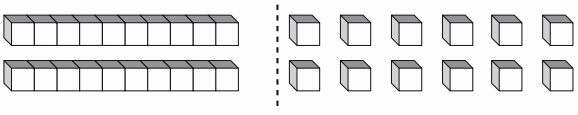
e)



$3 \times 10 =$ ☐ $3 \times 5 =$ ☐

$3 \times 15 =$ ☐

f)



$2 \times 10 =$ ☐ $2 \times 6 =$ ☐

$2 \times 16 =$ ☐

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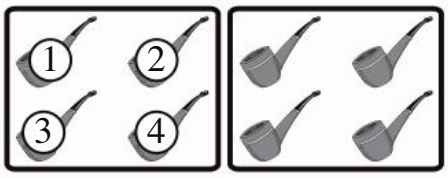
Skill 3.10 Dividing objects into equal groups (1).

- Try different ways to arrange the objects into equal groups.
- Count the number of objects in each group.

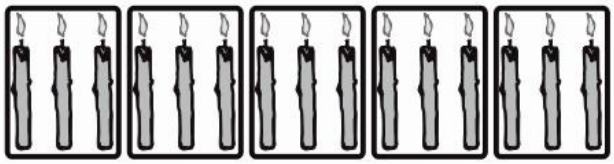
Q. Circle to divide 8 pipes into 2 equal groups. How many in each group?

A. ***4***



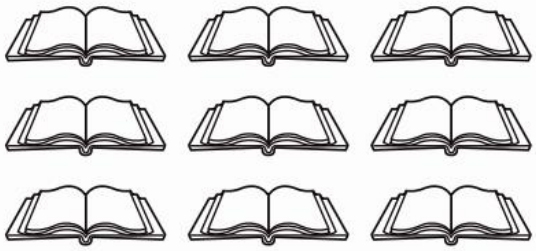
Group 1 Group 2

a) Circle to divide 15 candles into 5 equal groups. How many in each group?

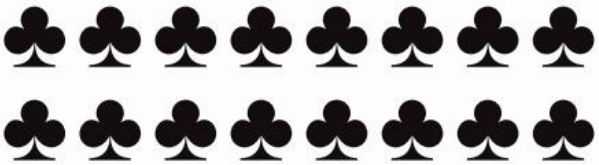


b) Circle to divide 12 crowns into 2 equal groups. How many in each group?

c) Circle to divide 9 books into 3 equal groups. How many in each group?

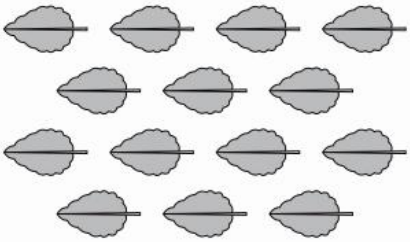


d) Circle to divide 16 clubs into 4 equal groups. How many in each group?



e) Circle to divide 18 butterflies into 3 equal groups. How many in each group?

f) Circle to divide 14 leaves into 2 equal groups. How many in each group?



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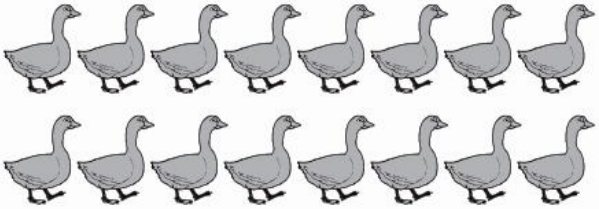
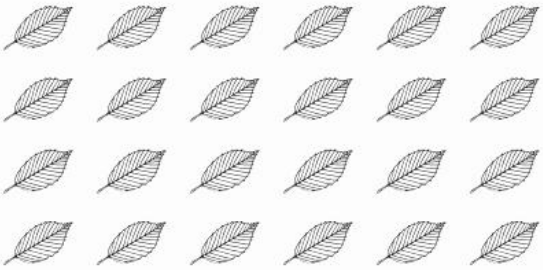
g) Circle to divide 16 ducks into 2 equal groups. How many in each group?



h) Circle to divide 15 cans into 3 equal groups. How many in each group?

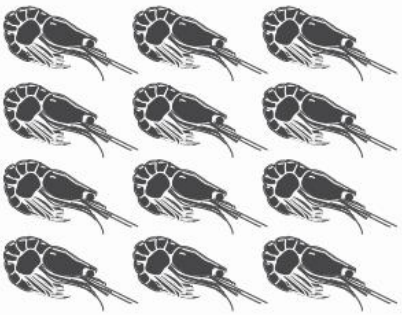
i) Circle to divide 12 tennis balls into 3 equal groups. How many in each group?

j) Circle to divide 24 leaves into 6 equal groups. How many in each group?



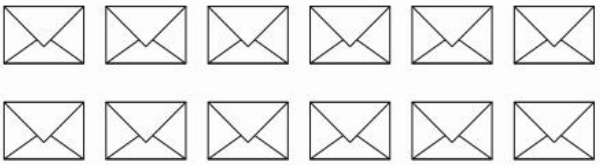
k) Circle to divide 6 bows into 2 equal groups. How many in each group?

l) Circle to divide 12 prawns into 6 equal groups. How many in each group?



m) Circle to divide 12 pinwheels into 4 equal groups. How many in each group?

n) Circle to divide 12 envelopes into 6 equal groups. How many in each group?



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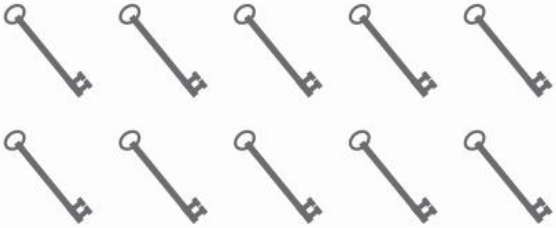
Skill 3.11 Modeling division by arranging objects in equal groups, by using pictures (1).

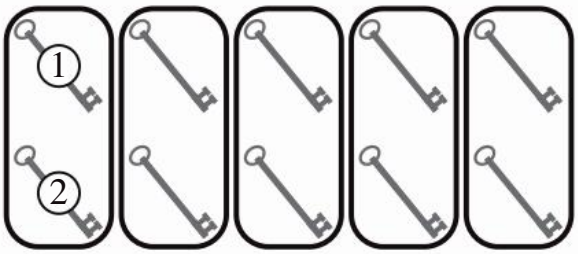
- Try different ways to arrange all the objects into equal groups.
- Count the number of objects in each group to complete the division.

Q. Circle to make 5 equal groups.



10 divided into 5 groups = ☐

A. *10 divided into 5 groups =* ***2***

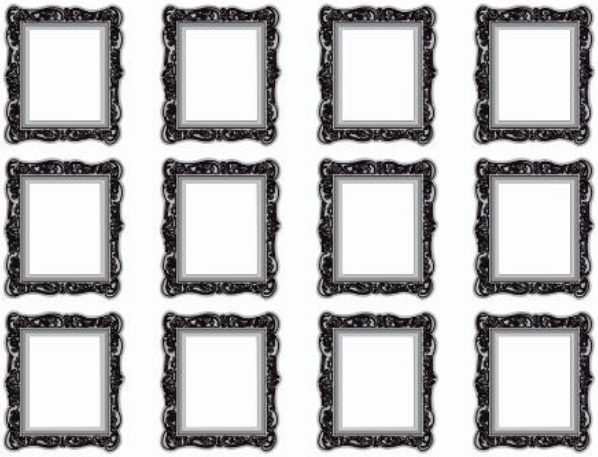


Group 1 Group 2 Group 3 Group 4 Group 5

a) Circle to make 4 equal groups.

20 divided into 4 groups = ☐

b) Circle to make 6 equal groups.



12 divided into 6 groups = ☐

c) Circle to make 7 equal groups.

42 divided into 7 groups = ☐

d) Circle to make 3 equal groups.

18 divided into 3 groups = ☐

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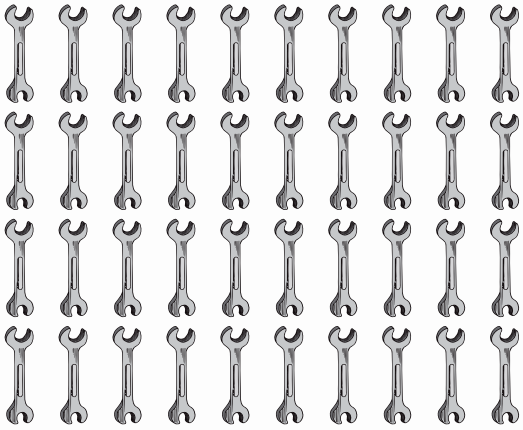
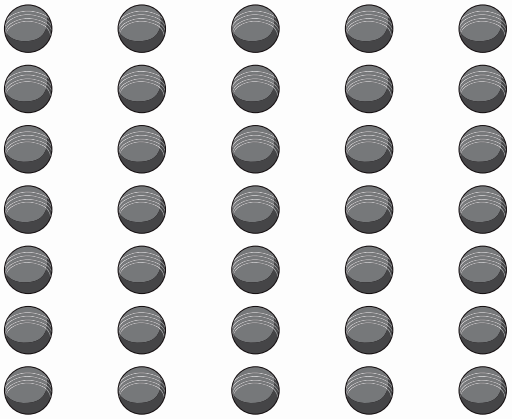
Skill 3.11 Modeling division by arranging objects in equal groups, by using pictures (2).

e) Circle to make 4 equal groups.



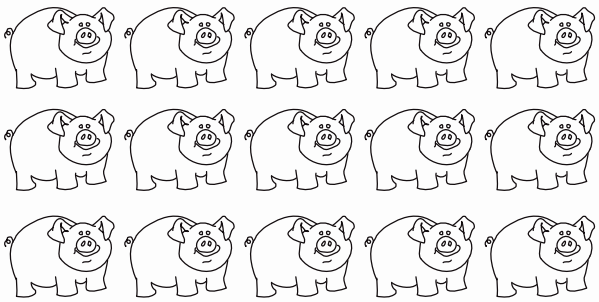
40 divided into 4 groups = ☐

f) Circle to make 5 equal groups.



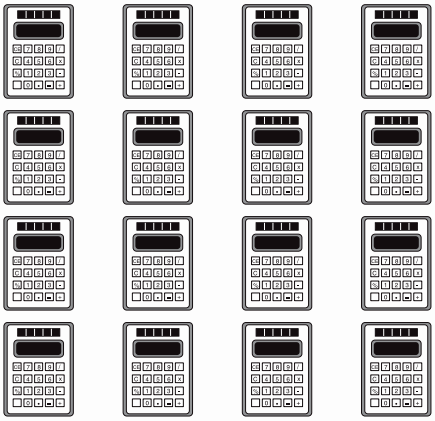
35 divided into 5 groups = ☐

g) Circle to make 3 equal groups.



15 divided into 3 groups = ☐

h) Circle to make 4 equal groups.

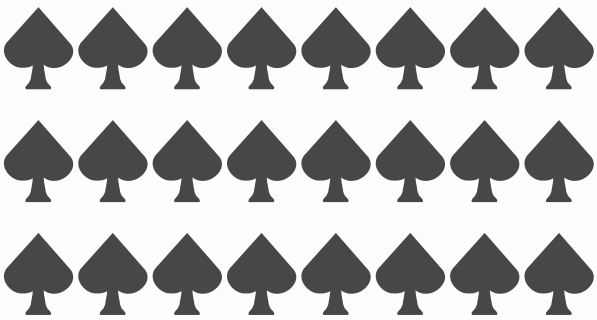


16 divided into 4 groups = ☐

i) Circle to make 4 equal groups.

28 divided into 4 groups = ☐

j) Circle to make 3 equal groups.



24 divided into 3 groups = ☐

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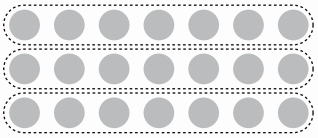
Skill 3.12 Modeling division by arranging objects in equal groups, by using arrays (1).

- Count the number of objects in each group to complete the division.

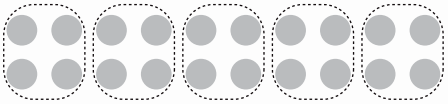
Q. 

21 divided into 3 groups =

$21 \div 3 =$ ☐

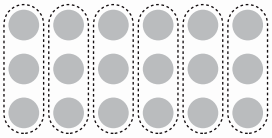
A. $21 \div 3 = \mathbf{7}$

There are 7 dots in each group.

a) 

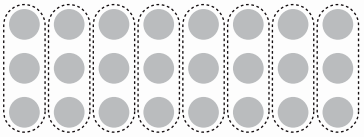
20 divided into 5 groups =

$20 \div 5 =$ ☐

b) 

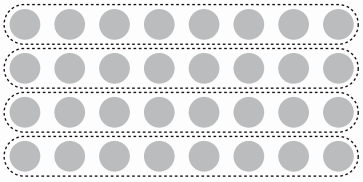
18 divided into 6 groups =

$18 \div 6 =$ ☐

c) 

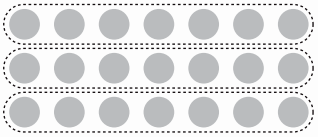
24 divided into 8 groups =

$24 \div 8 =$ ☐

d) 

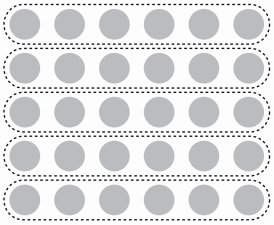
32 divided into 4 groups =

$32 \div 4 =$ ☐

e) 

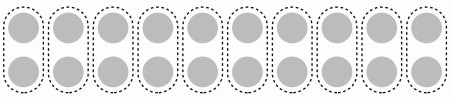
21 divided into 3 groups =

$21 \div 3 =$ ☐

f) 

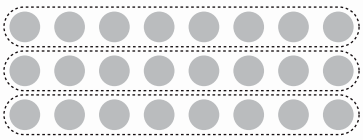
30 divided into 5 groups =

$30 \div 5 =$ ☐

g) 

20 divided into 10 groups =

$20 \div 10 =$ ☐

h) 

24 divided into 3 groups =

$24 \div 3 =$ ☐

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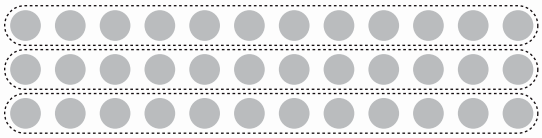
Skill 3.12 Modeling division by arranging objects in equal groups, by using arrays (2).

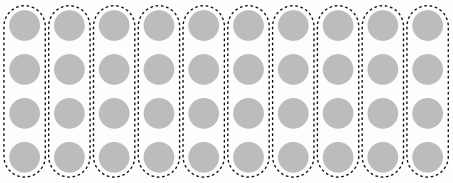
i)



36 divided into 3 groups =

□ ÷ □ = □

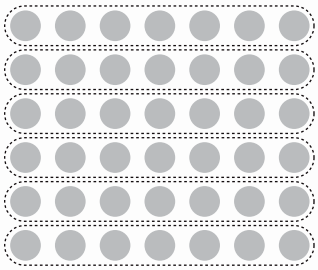
j)



40 divided into 10 groups =

□ ÷ □ = □

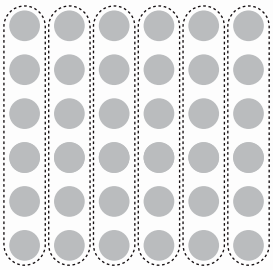
k)



42 divided into 6 groups =

□ ÷ □ = □

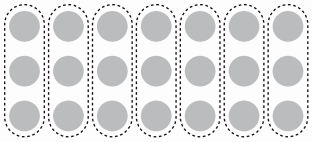
l)



36 divided into 6 groups =

□ ÷ □ = □

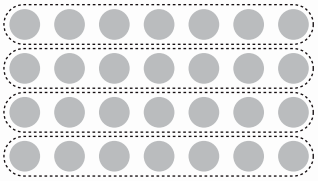
m)



21 divided into 7 groups =

□ ÷ □ = □

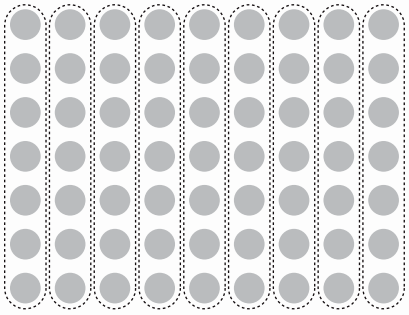
n)



28 divided into 4 groups =

□ ÷ □ = □

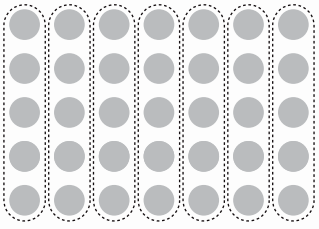
o)



63 divided into 9 groups =

□ ÷ □ = □

p)



35 divided into 7 groups =

□ ÷ □ = □

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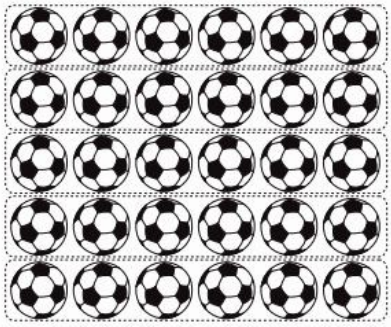
Skill 3.13 Modeling division by the numbers from 1 to 10, by using repetitive subtraction (1).

- Identify the smaller number which is repeatedly subtracted from the bigger number.
- Count how many times the smaller number is subtracted, to complete the division.

OR

- Count the number of equal groups containing a number of objects equal to the number being subtracted.

Q.



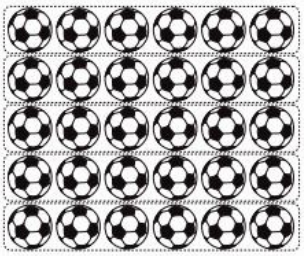
$30 - 6 - 6 - 6 - 6 - 6 = 0$

$30 \div 6 =$ ☐

A. $30 \div 6 = \mathbf{5}$

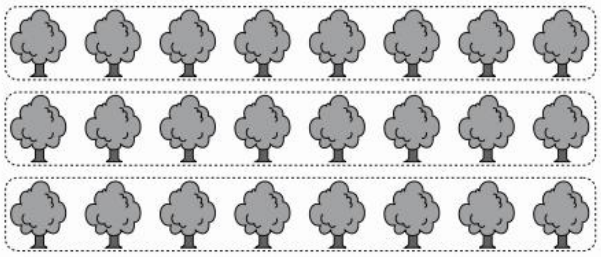
$30 - \underbrace{6 - 6 - 6 - 6 - 6}_{\text{5 times}} = 0$

6 is subtracted repeatedly 5 times from 30.
6 divides exactly 5 times into 30.
OR



There are 5 groups of 6 balls.

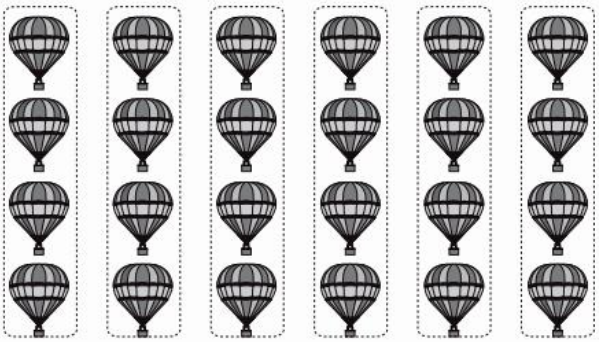
a)



$24 - 8 - 8 - 8 = 0$

$24 \div 8 =$ ☐

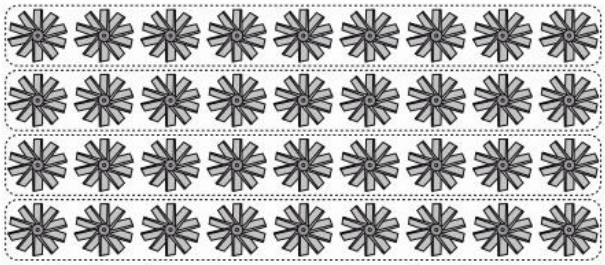
b)



$24 - 4 - 4 - 4 - 4 - 4 - 4 = 0$

$24 \div 4 =$ ☐

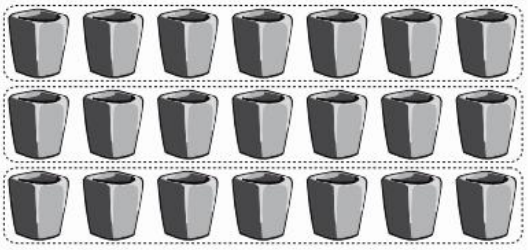
c)



$36 - 9 - 9 - 9 - 9 = 0$

$36 \div 9 =$ ☐

d)



$21 - 7 - 7 - 7 = 0$

$21 \div 7 =$ ☐

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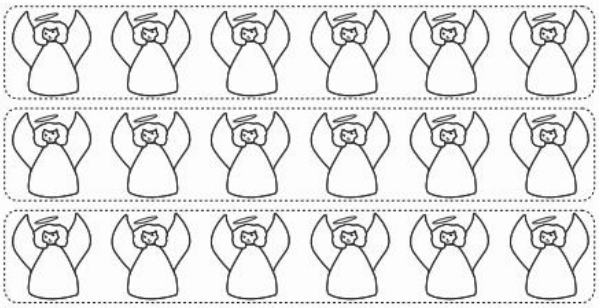
Skill 3.13 Modeling division by the numbers from 1 to 10, by using repetitive subtraction (2).

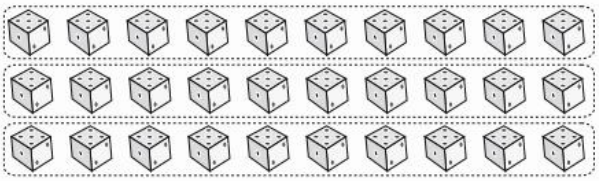
e)



$18 - 6 - 6 - 6 = 0$

$18 \div 6 =$ ☐

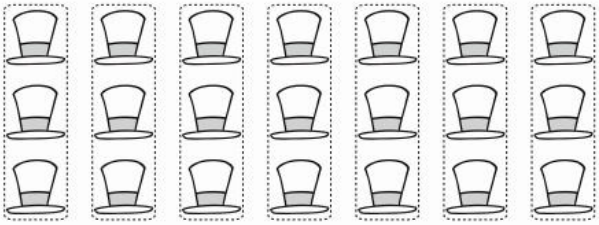
f)



$30 - 10 - 10 - 10 = 0$

$30 \div 10 =$ ☐

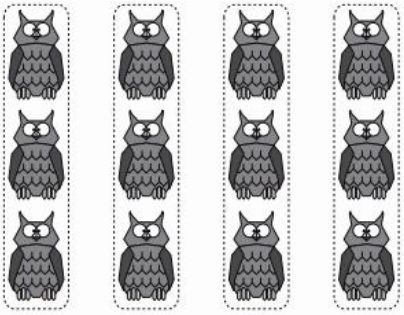
g)



$21 - 3 - 3 - 3 - 3 - 3 - 3 - 3 = 0$

$21 \div 3 =$ ☐

h)



$12 - 3 - 3 - 3 - 3 = 0$

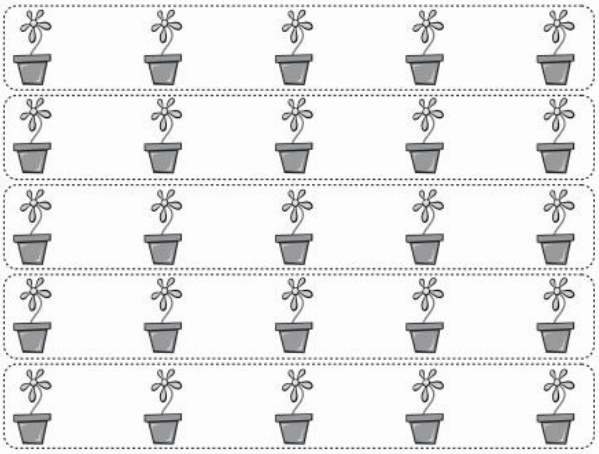
$12 \div 3 =$ ☐

i)

$15 - 3 - 3 - 3 - 3 - 3 = 0$

$15 \div 3 =$ ☐

j)



$25 - 5 - 5 - 5 - 5 - 5 = 0$

$25 \div 5 =$ ☐

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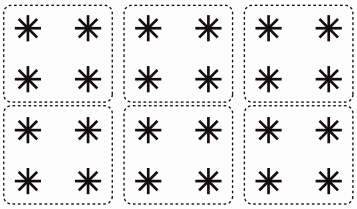
Skill 3.14 Modeling division by arranging an equal number of objects into groups, by using arrays (1).

- Count the number of groups to complete the division.

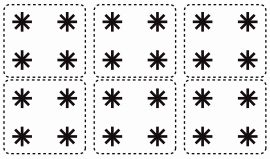
Q.



24 divided into groups of 4 =

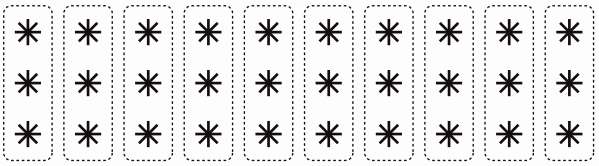
$24 \div 4 =$ ☐

A. $24 \div 4 = \mathbf{6}$



There are 6 groups of 4 objects.

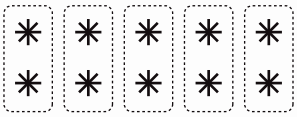
a)



30 divided into groups of 3 =

$30 \div 3 =$ ☐

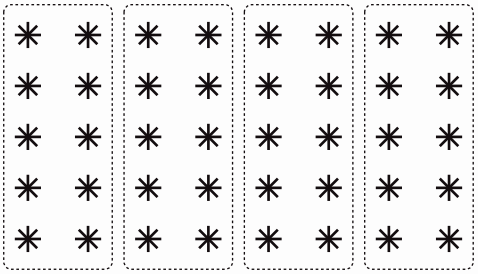
b)



10 divided into groups of 2 =

$10 \div 2 =$ ☐

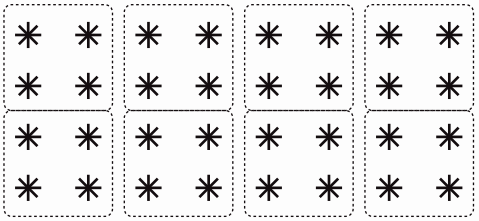
c)



40 divided into groups of 10 =

$40 \div 10 =$ ☐

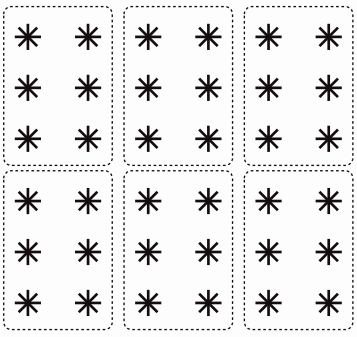
d)



32 divided into groups of 4 =

$32 \div 4 =$ ☐

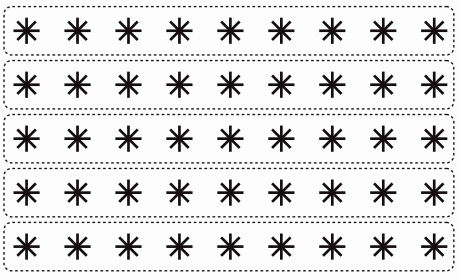
e)



36 divided into groups of 6 =

$36 \div 6 =$ ☐

f)



45 divided into groups of 9 =

$45 \div 9 =$ ☐

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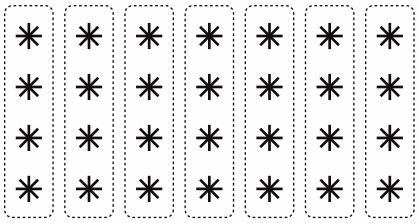
Skill 3.14 Modeling division by arranging an equal number of objects into groups, by using arrays (2).

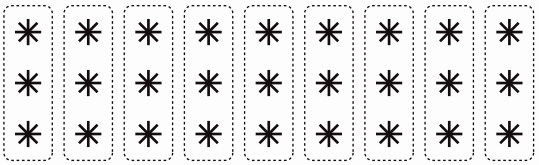
g)



28 divided into groups of 4 =

□ ÷ □ = □

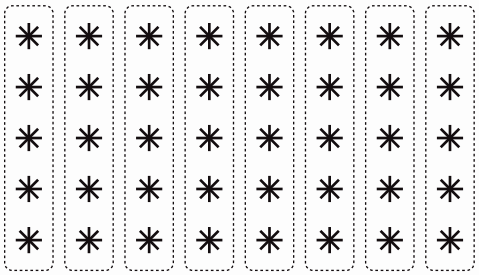
h)



27 divided into groups of 3 =

□ ÷ □ = □

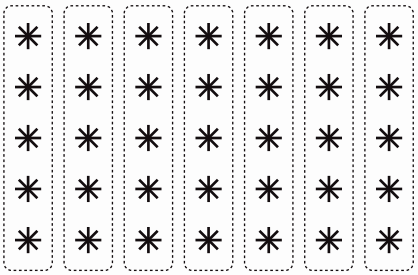
i)



40 divided into groups of 5 =

□ ÷ □ = □

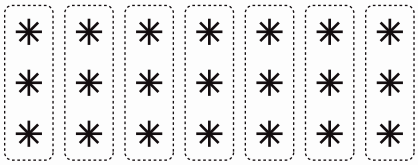
j)



35 divided into groups of 5 =

□ ÷ □ = □

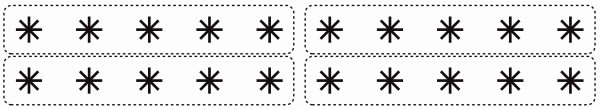
k)



21 divided into groups of 3 =

□ ÷ □ = □

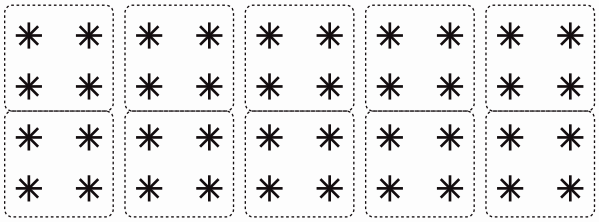
l)



20 divided into groups of 5 =

□ ÷ □ = □

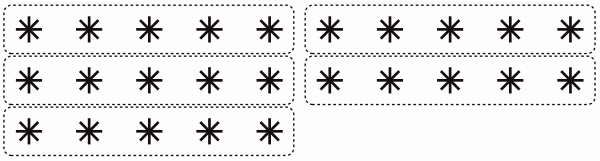
m)



40 divided into groups of 4 =

□ ÷ □ = □

n)



25 divided into groups of 5 =

□ ÷ □ = □

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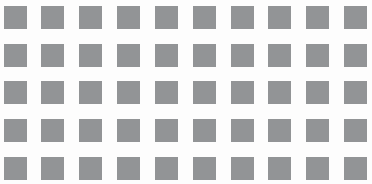
Skill 3.15 Modeling division by the numbers from 1 to 10, by using arrays (1).

- Look at the number you divide by.
- Circle squares to make that number of equal groups.
- Count the number of squares in each group to complete the division.

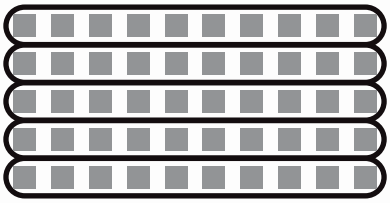
Q. Circle to complete the division.



$50 \div 5 =$ ☐

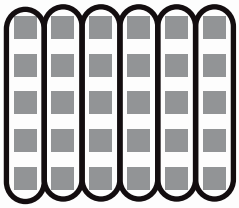
A. $50 \div 5 = 10$

the number you divide by



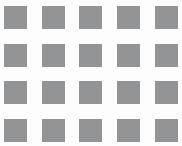
There are 10 squares in each group.

a) Circle to complete the division.



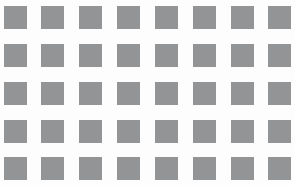
$30 \div 6 =$ ☐

b) Circle to complete the division.



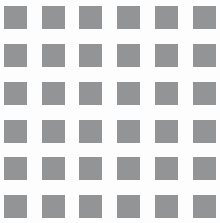
$20 \div 4 =$ ☐

c) Circle to complete the division.



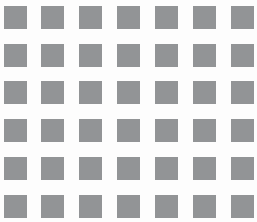
$40 \div 5 =$ ☐

d) Circle to complete the division.



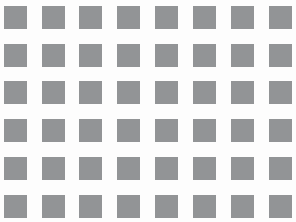
$36 \div 6 =$ ☐

e) Circle to complete the division.



$42 \div 7 =$ ☐

f) Circle to complete the division.



$48 \div 6 =$ ☐

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Skill 3.15 Modeling division by the numbers from 1 to 10, by using arrays (2).

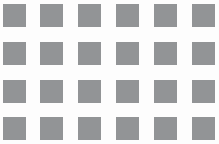
g) Circle to complete the division.

$20 \div 2 =$ ☐

h) Circle to complete the division.

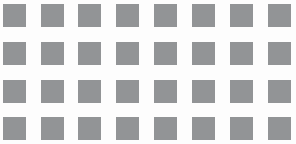
$14 \div 2 =$ ☐

i) Circle to complete the division.



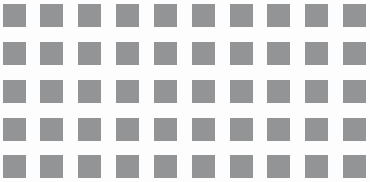
$24 \div 6 =$ ☐

j) Circle to complete the division.



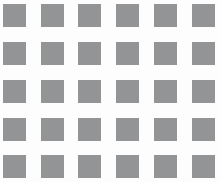
$32 \div 4 =$ ☐

k) Circle to complete the division.



$50 \div 10 =$ ☐

l) Circle to complete the division.



$30 \div 5 =$ ☐

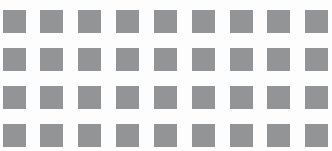
m) Circle to complete the division.

$27 \div 3 =$ ☐

n) Circle to complete the division.

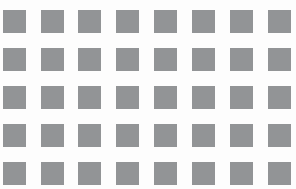
$30 \div 10 =$ ☐

o) Circle to complete the division.



$36 \div 9 =$ ☐

p) Circle to complete the division.



$40 \div 8 =$ ☐

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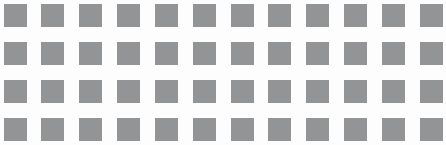
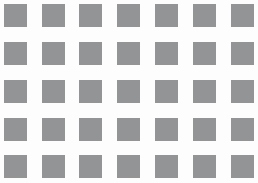
Skill 3.15 Modeling division by the numbers from 1 to 10, by using arrays (3).

q) Circle to complete the division.



$48 \div 4 =$ ☐

r) Circle to complete the division.



$35 \div 5 =$ ☐

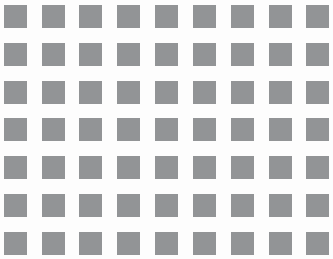
s) Circle to complete the division.

$18 \div 2 =$ ☐

t) Circle to complete the division.

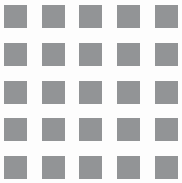
$21 \div 3 =$ ☐

u) Circle to complete the division.



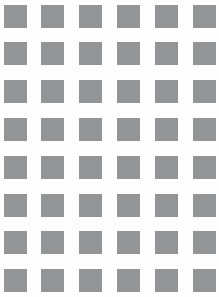
$63 \div 9 =$ ☐

v) Circle to complete the division.



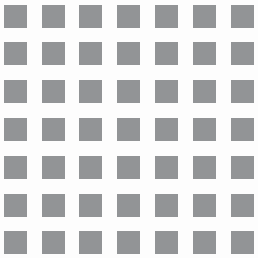
$25 \div 5 =$ ☐

w) Circle to complete the division.



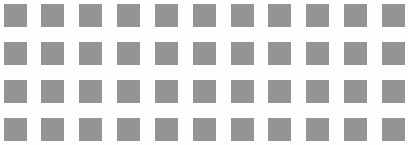
$48 \div 8 =$ ☐

x) Circle to complete the division.



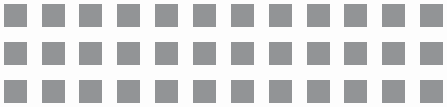
$49 \div 7 =$ ☐

y) Circle to complete the division.



$44 \div 11 =$ ☐

z) Circle to complete the division.



$36 \div 12 =$ ☐

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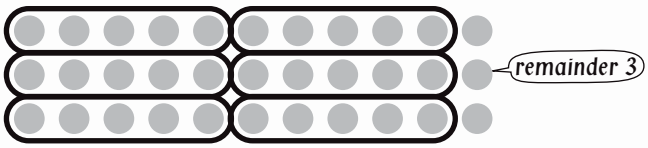
Skill 3.16 Modeling division by the numbers from 1 to 12 with remainder, by using arrays.

- Identify by what number you divide.
- Circle this number of dots to make as many equal groups as possible.
- Count the number of equal groups to get the result of the division.
- Count the number of left over dots to get the remainder of the division.

Q.

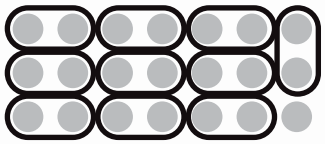
$33 \div 5 =$ ☐ remainder ☐

A. *33 ÷ 5 = **6** remainder **3***



There are 6 groups of 5 dots.

a)

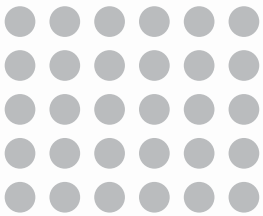


$21 \div 2 =$ ☐ remainder ☐

b)

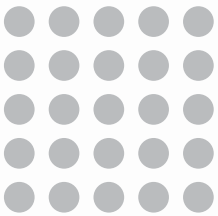
$18 \div 4 =$ ☐ remainder ☐

c)



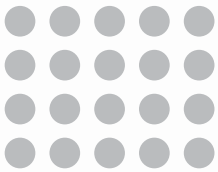
$30 \div 9 =$ ☐ remainder ☐

d)



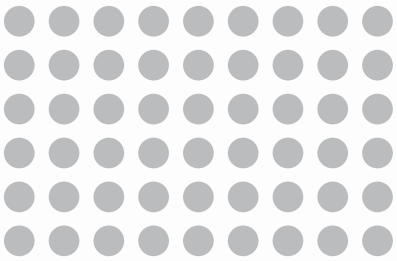
$25 \div 10 =$ ☐ remainder ☐

e)



$20 \div 3 =$ ☐ remainder ☐

f)



$54 \div 7 =$ ☐ remainder ☐

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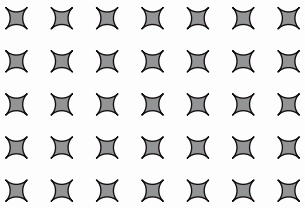
Skill 3.17 Relating multiplication and division facts by using arrays (1).

Array is divided into equal groups

- Notice the arrangement of numbers in both the multiplication and division.
- Count the dots in each group to complete the division.

Array is not divided

- Count the number of dots, rows and columns in the array to complete the multiplication and division number sentences.

Q. 

$5 \times \square = 35$

$\square \times 5 = 35$

$\square \div 5 = 7$

$35 \div \square = 5$

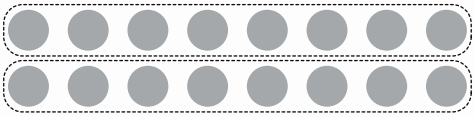
A. $5 \times \mathbf{7} = 35$

$\mathbf{7} \times 5 = 35$

$\mathbf{35} \div 5 = 7$

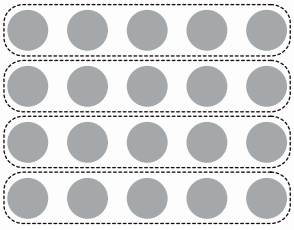
$35 \div \mathbf{7} = 5$

There are 35 dots in the array,
5 rows and
7 columns.

a) 

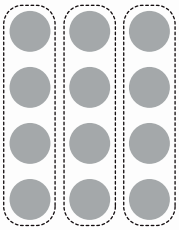
$2 \times 8 = 16$

$16 \div 2 = \square$

b) 

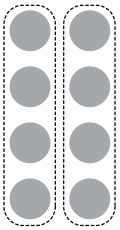
$4 \times 5 = 20$

$20 \div 4 = \square$

c) 

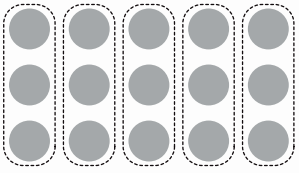
$3 \times 4 = 12$

$12 \div 3 = \square$

d) 

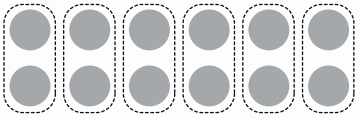
$2 \times 4 = 8$

$8 \div 2 = \square$

e) 

$5 \times 3 = 15$

$15 \div 5 = \square$

f) 

$6 \times 2 = 12$

$12 \div 6 = \square$

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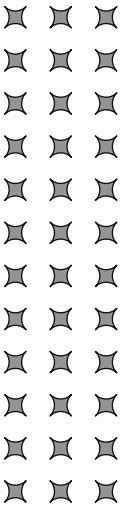
g)



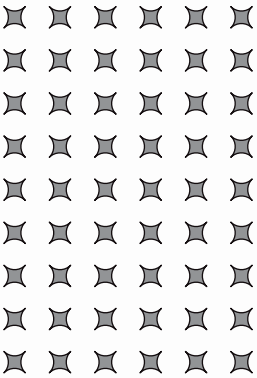
$12 \times \square = 36$

$\square \times 3 = 36$

$36 \div 3 = \square$

$36 \div \square = 3$

h)



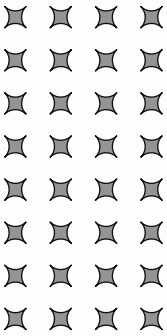
$9 \times \square = 54$

$6 \times 9 = \square$

$\square \div 6 = 9$

$54 \div \square = 6$

i)



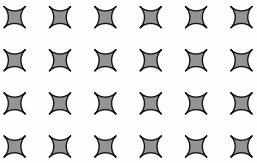
$4 \times \square = 32$

$\square \times 4 = 32$

$\square \div 8 = 4$

$32 \div \square = 8$

j)



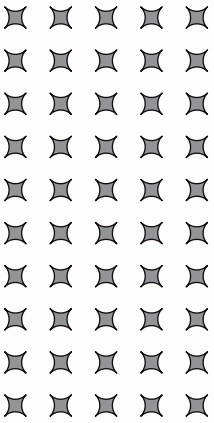
$\square \times 4 = 24$

$4 \times 6 = \square$

$24 \div \square = 6$

$\square \div 6 = 4$

k)



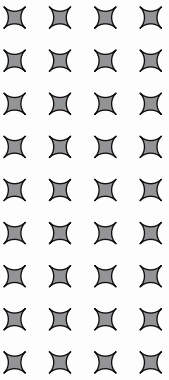
$\square \times 10 = 50$

$10 \times 5 = \square$

$50 \div \square = 5$

$\square \div 5 = 10$

l)



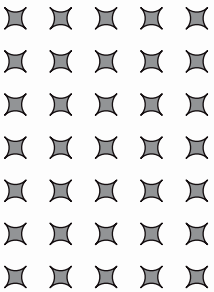
$4 \times \square = 36$

$\square \times 4 = 36$

$\square \div 9 = 4$

$36 \div \square = 9$

m)



$5 \times \square = 35$

$\square \times 5 = 35$

$\square \div 5 = 7$

$35 \div \square = 5$

n)

$\square \times 3 = 27$

$3 \times 9 = \square$

$27 \div \square = 9$

$\square \div 9 = 3$

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4. [+ Whole Numbers]

Skill 4.1 Understanding different terms used for addition.

- Consider the words used with the numbers.
  Addition is associated with words like: ***add on, and, plus, sum of, total of, increasing by, more than, all together.***

Q. The sum of 7 and 2 is ☐

A. $7 + 2 = \mathbf{9}$

*'**sum of**' means adding*

a) 6 add on 8 is 14

b) 10 and 6 makes ☐

c) 3 plus 4 equals ☐

d) 9 and 6 all together make ☐

e) 6 plus 7 equals ☐

f) 9 add on 5 is ☐

g) 5 add on 8 is ☐

h) The sum of 9 and 8 is ☐

i) 9 and 6 makes ☐

j) 4 plus 5 equals ☐

k) Increasing 8 by 5 is ☐

l) 9 more than 3 equals ☐

m) The total of 3 and 6 is ☐

n) 7 add on 4 is ☐

o) The sum of 7 and 6 is ☐

p) 11 and 7 makes ☐

q) The total of 5 and 10 is ☐

r) 6 and 8 all together make ☐

s) 5 and 7 all together make ☐

t) 8 and 8 makes ☐

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Skill 4.2 Adding the numbers from 1 to 10 by counting on, using your fingers or pencil marks.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Start with the largest number.
- Count on the smaller number using your fingers or pencil marks.

Q.

	3	5	6	8	9
+ 6					

A.

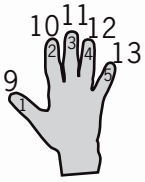
	3	5	6	8	9
+ 6	***9***	***11***	***12***	***14***	***15***

6 counting on 3 6 counting on 3

OR

Start with the largest number, 6.
Count on 3 more.
$6 + 3 = 9$

8 counting on 5



a) $8 + 5 =$ ☐

b) $7 + 7 =$ ☐ 7 counting on...

c) $4 + 5 =$ ☐

d) $3 + 8 =$ ☐

e) $4 + 8 =$ ☐

f) $6 + 7 =$ ☐

g)

	2	9	3	8	6
+ 3					

h)

	6	4	8	5	11
+ 8					

i)

	16	8	13	5	29
+ 2					

j)

	13	5	27	18	6
+ 4					

k)

	14	3	26	8	19
+ 7					

l)

	12	4	18	11	9
+ 9					

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Skill 4.3 Adding the numbers from 1 to 10 by counting forwards on a number line.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

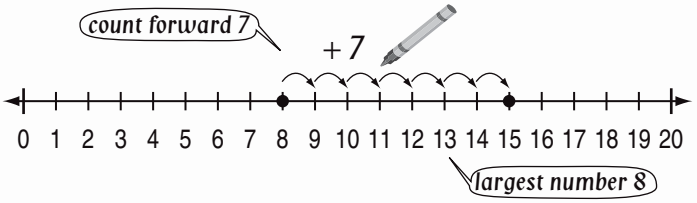
- Mark the largest number in the sum on the number line.
- Use your pencil to count forwards the smallest number.

Q.

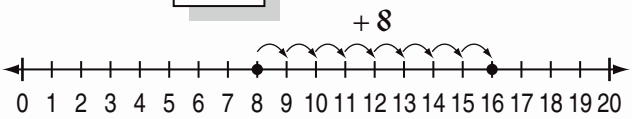
+ 8	7	5	26	18	19

A.

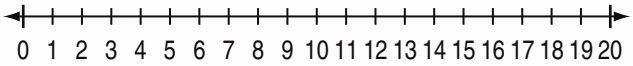
+ 8	7	5	26	18	19
	15	***13***	***34***	***26***	***27***



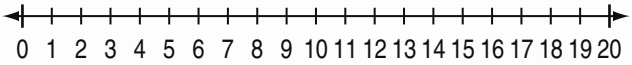
a) $8 + 8 =$ ☐



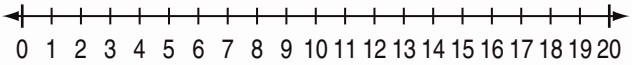
b) $9 + 5 =$ ☐



c) $4 + 7 =$ ☐

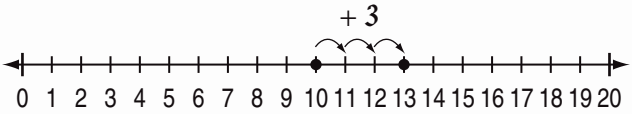


d) $6 + 6 =$ ☐



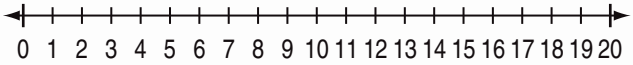
e)

+ 3	10	5	7	2	8
	13				



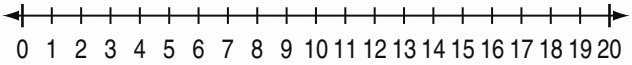
f)

+ 7	2	8	9	3	6



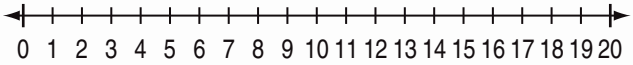
g)

+ 8	3	7	9	4	2



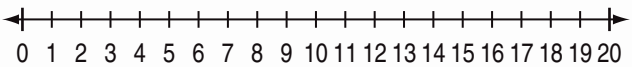
h)

+ 9	4	8	9	5	11



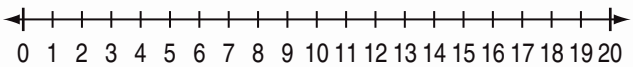
i)

+ 6	7	15	19	12	14



j)

+ 4	23	18	20	25	27



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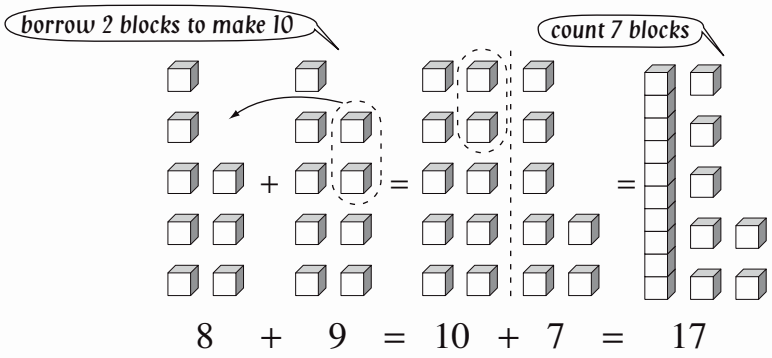
Skill 4.4 Adding the numbers from 1 to 10 by using base 10 blocks.

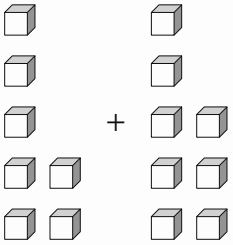
- Use blocks to represent both numbers.
- Borrow blocks from the second number to make the first number a ten, if possible. Add to this ten the remaining blocks to complete the addition.
- Count the number of blocks.

Q. $8 + 9 =$ ☐

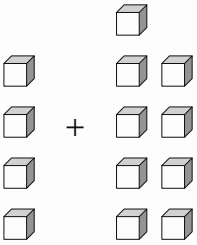
A. $8 + 9 = \mathbf{17}$



a) $7 + 8 =$ ☐



b) $4 + 9 =$ ☐



c)

	3	5	7	2	1
+ 2					

d)

	3	7	8	5	6
+ 7					

e)

	4	6	7	9	5
+ 5					

f)

	9	12	5	13	26
+ 6					

g)

	24	6	37	19	15
+ 8					

h)

	29	12	15	23	6
+ 9					

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Skill 4.5 Adding the numbers from 1 to 10 by first making 10 or the nearest multiple of 10.

- Find the biggest number in the addition.
- Ask yourself, "What number added to this number makes 10 (or the nearest multiple of 10)?"
- Break down the other number in the addition to include the number you need.
- Add the two numbers that make 10 (or 20, 30, 40 etc).
- Complete the addition.

Q.

	5	7	9	8	6
+ 7					

A.

	5	7	9	8	6
+ 7	***12***	***14***	***16***	***15***	***13***

$7 + 5 =$ *break down the 5*

$= 7 + 3 + 2$

$= 7 + 3 + 2$ *make 10*

$= 10 + 2$

$= \mathbf{12}$

a) $6 + 9 =$

$= 9 + 1 + 5$

$= 9 + 1 + 5$

$10 + 5 =$ ☐

b) $8 + 17 =$

☐

c) $15 + 8 =$

☐

d) $9 + 9 =$

☐

e) $6 + 15 =$

☐

f) $7 + 25 =$

☐

g)

	12	16	7	23	14
+ 9					

h)

	16	25	9	7	8
+ 6					

i)

	9	16	18	7	26
+ 5					

j)

	17	8	9	25	13
+ 8					

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Adding 10 to a single digit number

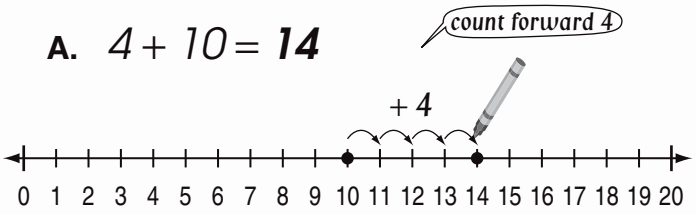
- Mark 10 on the number line.
- Use your pencil to count forwards the single digit number.

Adding 10 to a double digit number

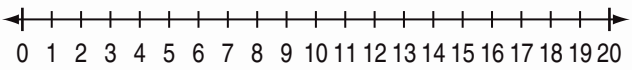
- Keep the units digit of the double digit number.
- Add 1 to the tens digit of the double digit number.

Q. $4 + 10 = \square$

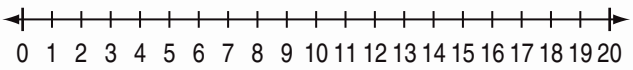
A. $4 + 10 = \mathbf{14}$



a) $10 + 3 = \square$



b) $5 + 10 = \square$



c) $8 + 10 = \square$

d) $10 + 10 = \square$

e) $9 + 10 = \square$

f) $10 + 7 = \square$

g) $10 + 6 = \square$

h) $3 + 10 = \square$

i) $14 + 10 = \square$

j) $10 + 18 = \square$

k) $10 + 17 = \square$

l) $27 + 10 = \square$

m) $25 + 10 = \square$

n) $10 + 22 = \square$

o) $26 + 10 = \square$

p) $31 + 10 = \square$

q) $36 + 10 = \square$

r) $10 + 34 = \square$

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Skill 4.7 Adding two 2-digit numbers by separately adding the tens and the units, and then adding the results.

- Add the tens.
- Add the units.
- Add the totals.

Q. $15 + 27 =$ ☐

A. $10 + 20 = 30$ (add the tens)
$5 + 7 = 12$ (add the units)
$30 + 12 = \mathbf{42}$

a) $14 + 24 =$

$10 + 20 = 30$

$4 + 4 = 8$

$30 + 8 =$ ☐

b) $32 + 13 =$

$30 + 10 =$

$2 + 3 =$

☐

c) $26 + 21 =$

☐

d) $48 + 20 =$

☐

e) $19 + 31 =$

☐

f) $22 + 36 =$

☐

g) $26 + 15 =$

☐

h) $18 + 37 =$

☐

i) $49 + 34 =$

☐

j) $33 + 28 =$

☐

k) $46 + 19 =$

☐

l) $27 + 35 =$

☐

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Skill 4.8 Adding multi-digit whole numbers by using the standard algorithm, no carry.

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Add from right to left.

Q.

$$\begin{array}{r} 16 \\ +\ 42 \\ \hline \square \end{array}$$

A.

tens | units

$$\begin{array}{r} 16 \\ +\ 42 \\ \hline 58 \end{array}$$

Units first!

Units:
$6 + 2 = 8$ $\Rightarrow$ 8 units

Tens:
$1 + 4 = 5$ $\Rightarrow$ 5 tens

a)

$$\begin{array}{r} 32 \\ +\ 27 \\ \hline 59 \end{array}$$

Units first!

b)

$$\begin{array}{r} 25 \\ +\ 51 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 16 \\ +\ 72 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 21 \\ 45 \\ +\ 13 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 22 \\ 22 \\ +\ 24 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 33 \\ 41 \\ +\ 12 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 234 \\ +\ 152 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 434 \\ +\ 363 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 571 \\ +\ 208 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 522 \\ +\ 361 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 106 \\ +\ 443 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 429 \\ +\ 540 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 435 \\ +\ \ 34 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 480 \\ +\ 402 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 523 \\ +\ 263 \\ \hline \square \end{array}$$

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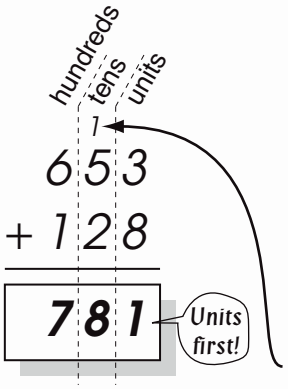
Skill 4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Add from right to left.

Q.

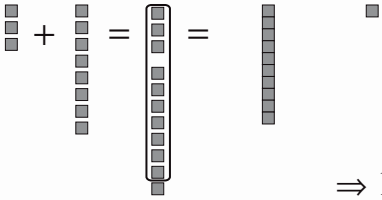
$$\begin{array}{r} 653 \\ +\ 128 \\ \hline \square \end{array}$$

A.



Units:

$3 + 8 = 11 = 1$ ten $+ 1$ unit



$\Rightarrow$ 1 unit

Carry over the 1 ten to the tens column.

Tens:

$5 + 2 + 1$ (carry over) $= 8 \Rightarrow$ 8 tens

Hundreds:

$6 + 1 = 7 \Rightarrow$ 7 hundreds

a)

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 25 \\ +\ 28 \\ \hline 53 \end{array}$$

Units first!

b)

$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 43 \\ +\ 29 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 28 \\ +\ 16 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 34 \\ +\ 27 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 36 \\ +\ 19 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 27 \\ +\ 38 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 28 \\ +\ 14 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 35 \\ +\ 39 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 25 \\ +\ 57 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 234 \\ +\ 556 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 463 \\ +\ 319 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 428 \\ +\ 305 \\ \hline \square \end{array}$$

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Skill 4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry (2).

m) 356 + 137 = ☐

n) 145 + 293 = ☐

o) 253 + 674 = ☐

p) 462 + 184 = ☐

q) 476 + 151 = ☐

r) 354 + 267 = ☐

s) 225 + 478 = ☐

t) 146 + 459 = ☐

u) 517 + 288 = ☐

v) 468 + 183 = ☐

w) 375 + 286 = ☐

x) 337 + 369 = ☐

y) 284 + 158 = ☐

z) 283 + 157 = ☐

A) 149 + 361 = ☐

B) 467 + 234 = ☐

C) 396 + 508 = ☐

D) 185 + 679 = ☐

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Skill 4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry (3).

E)
$$\begin{array}{r} 4467 \\ +\ 2234 \\ \hline \square \end{array}$$

F)
$$\begin{array}{r} 4096 \\ +\ 1508 \\ \hline \square \end{array}$$

G)
$$\begin{array}{r} 1850 \\ +\ 2798 \\ \hline \square \end{array}$$

H)
$$\begin{array}{r} 3548 \\ +\ 1903 \\ \hline \square \end{array}$$

I)
$$\begin{array}{r} 7404 \\ +\ \ 397 \\ \hline \square \end{array}$$

J)
$$\begin{array}{r} 5718 \\ +\ 2884 \\ \hline \square \end{array}$$

K)
$$\begin{array}{r} 121 \\ 456 \\ +\ \ 57 \\ \hline \square \end{array}$$

L)
$$\begin{array}{r} 503 \\ \ \ 46 \\ +\ 182 \\ \hline \square \end{array}$$

M)
$$\begin{array}{r} 643 \\ 231 \\ +\ \ 94 \\ \hline \square \end{array}$$

N)
$$\begin{array}{r} 5371 \\ 1283 \\ +\ 2389 \\ \hline \square \end{array}$$

O)
$$\begin{array}{r} 3456 \\ \ \ 290 \\ +\ 1531 \\ \hline \square \end{array}$$

P)
$$\begin{array}{r} 7241 \\ 1259 \\ +\ 1396 \\ \hline \square \end{array}$$

Q)
$$\begin{array}{r} 44537 \\ +\ 15287 \\ \hline \square \end{array}$$

R)
$$\begin{array}{r} 62947 \\ +\ 18281 \\ \hline \square \end{array}$$

S)
$$\begin{array}{r} 56422 \\ +\ 31579 \\ \hline \square \end{array}$$

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Skill 4.10 Finding the unknown number in an addition number sentence.

- Guess the value of the missing number that will make the number sentence true. (Both sides of the number sentence must be equal).
- Fill in this value in the number sentence and check the sum.
  Hint: If the total on the left hand side of the number sentence is not enough then add a larger number.
  If the total on the left hand side of the number sentence is too great then add a smaller number.
- Keep guessing and checking until the number sentence is true.

Q. $4 + \square = 16$

A.
$4 + ? = 16$ Guess 10.
$4 + 10 = 14$ Adding 10 gives a sum of 14 - not enough so guess a larger number.
$4 + \mathbf{12} = 16$ Guess 12.
Check again.

a) $13 + \square = 18$

13 + 3 = 16 (not enough)

13 + 5 = 18 ✔

b) $16 + \square = 23$

16 + 5 = 21 (not enough)

c) $\square + 17 = 25$

d) $\square + 13 = 32$

e) $8 + \square = 24$

f) $21 + \square = 28$

g) $12 + \square = 29$

h) $11 + \square = 33$

i) $\square + 18 = 27$

j) $\square + 25 = 31$

k) $8 + \square = 32$

l) $\square + 11 = 23$

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5. [– Whole Numbers]

Skill 5.1 Understanding different terms used for subtraction.

- Consider the words used with the numbers.
  Subtraction is associated with words like: ***minus, difference, take away, subtract, less than, decreasing by, how many more.***

Q. The difference between 17 and 8 is ☐

A. $17 - 8 = \mathbf{9}$ *'difference between' means subtracting*

a) 11 minus 3 equals 8

b) 14 minus 9 equals ☐

c) The difference between 16 and 4 is ☐

d) The difference between 16 and 10 is ☐

e) The difference between 19 and 12 is ☐

f) The difference between 31 and 29 is ☐

g) 15 take away 4 equals ☐

h) 26 take away 9 equals ☐

i) 32 take away 6 equals ☐

j) 22 minus 7 equals ☐

k) 15 minus 8 equals ☐

l) 120 minus 20 equals ☐

m) 37 minus 12 equals ☐

n) 16 subtract 8 makes ☐

o) 23 subtract 9 makes ☐

p) 15 subtract 8 makes ☐

q) 31 subtract 7 makes ☐

r) 23 subtract 6 makes ☐

s) The difference between 17 and 4 is ☐

t) 14 subtract 8 makes ☐

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Skill 5.2 Subtracting the numbers from 1 to 10 by counting backwards, using your fingers or pencil marks.

Orange 1 1 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Start with the first number given.
- Count backwards the smaller number using your fingers or pencil marks.

Q.

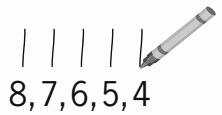
	9	6	8	12	10
– 5					

A.

	9	6	8	12	10
– 5	***4***	***1***	***3***	***7***	***5***

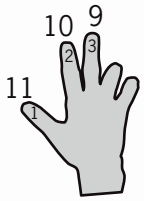
9 counting back 5 9 counting back 5

OR



Start with the first number given, 9.
Count backwards 5.
$9 - 5 = 4$

12 counting back 3



a) $12 - 3 =$ ☐

b) $14 - 9 =$ ☐ 14 counting back...

c) $21 - 7 =$ ☐

d) $25 - 6 =$ ☐

e) $32 - 5 =$ ☐

f) $26 - 8 =$ ☐

g)

	8	10	7	11	12
– 3					

h)

	10	3	5	9	6
– 2					

i)

	7	10	12	9	11
– 4					

j)

	18	22	7	14	30
– 5					

k)

	13	25	27	18	16
– 7					

l)

	16	15	24	13	21
– 9					

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Skill 5.3 Subtracting the numbers from 1 to 10 by counting backwards on a number line.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

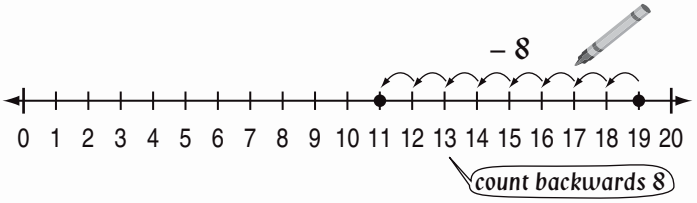
- Mark the first number in the subtraction on the number line.
- Use your pencil to count backwards the second number.

Q.

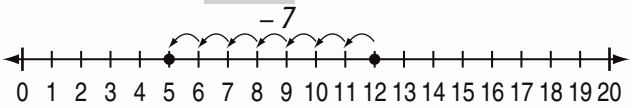
	19	25	16	18	23
– 8					

A.

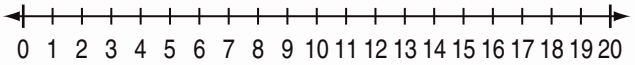
	19	25	16	18	23
– 8	***11***	***17***	***8***	***10***	***15***



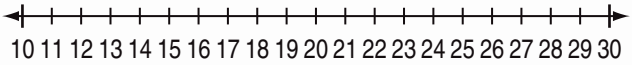
a) $12 - 7 =$ ☐



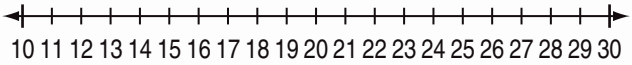
b) $17 - 8 =$ ☐



c) $24 - 9 =$ ☐

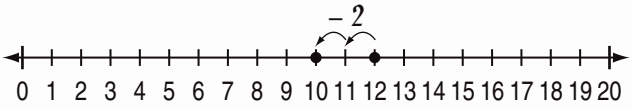


d) $21 - 5 =$ ☐



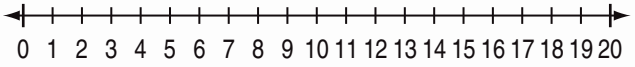
e)

	12	3	9	6	7
– 2	10				



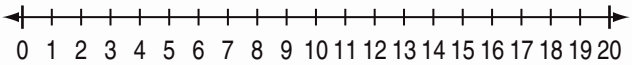
f)

	12	9	8	13	10
– 6					



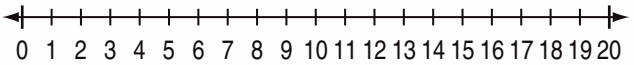
g)

	11	14	13	9	16
– 8					



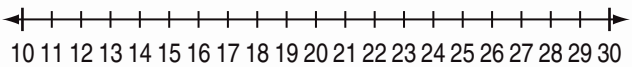
h)

	19	31	15	20	12
– 7					



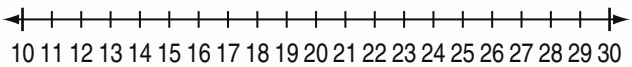
i)

	27	14	19	22	18
– 5					



j)

	15	17	24	29	26
– 9					



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Skill 5.4 Subtracting the numbers from 1 to 10 from 2-digit numbers, by first moving backwards to the nearest 10.

- Look at the unit value of the two-digit number.
- Break down the single digit number to include this number and the remainder.
- Subtract the number from the two-digit number giving 10 (or the nearest multiple of 10) as the result.
- Then subtract the remainder from 10 (or 20, 30, 40 etc).

Q.

	25	12	16	21	23
– 8					

A.

	25	12	16	21	23
– 8	***17***	***4***	***8***	***13***	***15***

break down the 8 → $25 - 8 =$
$= 25 - 5 - 3$

The unit value of 25 is 5. You need a 5.
Breakdown 8 into 5 and 3. $5 + 3 = 8$

make 20 → $= 25 - 5 - 3$
$= 20 - 3$
$= \mathbf{17}$

Subtract 5 from 25 to get 20.
Subtract 3 from 20.

a) $12 - 6 =$

$= 12 - 2 - 4$

$= 12 - 2 - 4$

$= 10 - 4 =$ ☐

b) $27 - 8 =$ ☐

c) $25 - 9 =$ ☐

d) $22 - 8 =$ ☐

e) $31 - 5 =$ ☐

f) $25 - 7 =$ ☐

g)

	11	14	17	15	12
– 8					

h)

	12	14	23	25	21
– 7					

i)

	23	15	12	20	17
– 9					

j)

	15	22	23	21	14
– 6					

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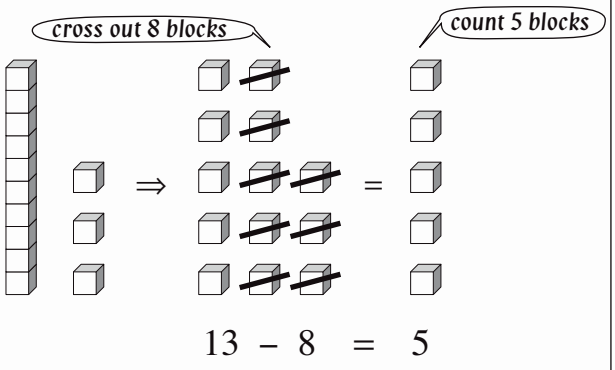
Skill 5.5 Subtracting the numbers from 1 to 10 from 2-digit numbers, by trading with base 10 blocks.

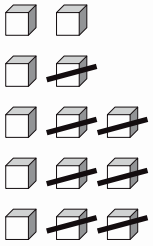
- Use blocks to represent the first number.
- Cross out a number of blocks equal to the second number.
- Count the remaining blocks to complete the subtraction.

Q. $13 - 8 =$ ☐

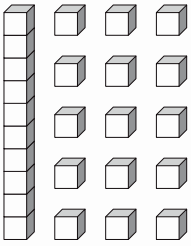
A. *13 – 8 =* ***5***



a) $13 - 7 =$ ☐



b) $25 - 6 =$ ☐



c)

	9	11	7	10	5
– 3					

d)

	10	8	12	9	14
– 5					

e)

	6	12	4	8	5
– 4					

f)

	13	17	25	31	12
– 9					

g)

	22	15	17	28	10
– 8					

h)

	23	21	19	8	14
– 6					

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Skill 5.6 Subtracting the numbers from 1 to 10 by first building up to the nearest 10 on a number line.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Mark the second number in the subtraction on the number line.
- Count forwards to the nearest 10, 20, 30 or 40 on the number line.
- Then count on to the first number on the number line.
- Add the total number of places you moved on the number line to complete the subtraction.

Q.

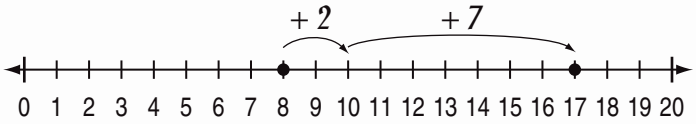
	17	21	29	18	23
– 8					

A.

	17	21	29	18	23
– 8	***9***	***13***	***21***	***10***	***15***

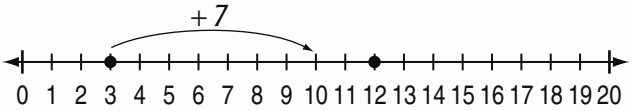
*17 – 8 = **9***

the second number

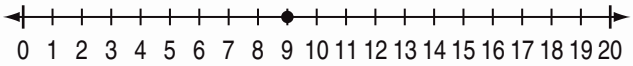


Start at 8.
Count forwards 2 places to 10.
Count on 7 places to 17.
2 + 7 = 9 places

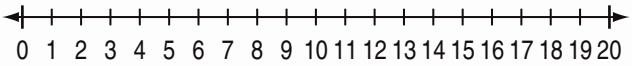
a) 12 – 3 = ☐



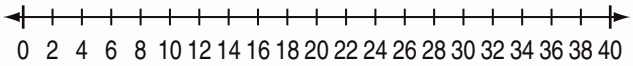
b) 17 – 9 = ☐



c) 15 – 7 = ☐

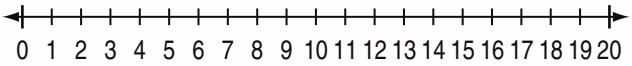


d) 24 – 6 = ☐



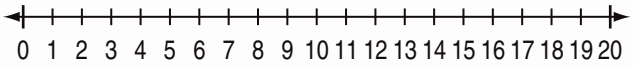
e)

	14	12	7	9	16
– 6	8				



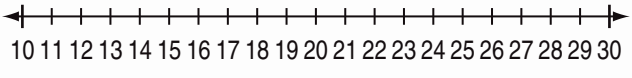
f)

	9	5	13	8	11
– 4					



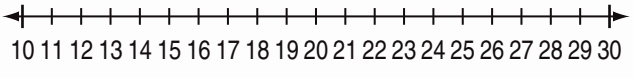
g)

	17	24	19	23	20
– 7					



h)

	25	19	20	22	26
– 8					



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Skill 5.7 Subtracting two 2-digit numbers by separately subtracting the units and tens, and then adding the results.

- Subtract the tens.
- Subtract the units.
- Add the totals.

Q. 38 – 15 = ☐

A. 30 – 10 = 10 (subtract the tens)
8 – 5 = 3 (subtract the units)
10 + 3 = **13**

a) 46 – 22 =

40 – 20 = 20

6 – 2 = 4

20 + 4 = ☐

b) 38 – 17 =

30 – 10 =

8 – 7 =

☐

c) 49 – 23 =

☐

d) 33 – 20 =

☐

e) 58 – 24 =

☐

f) 69 – 32 =

☐

g) 56 – 21 =

☐

h) 29 – 17 =

☐

i) 49 – 34 =

☐

j) 38 – 22 =

☐

k) 56 – 33 =

☐

l) 77 – 45 =

☐

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Skill 5.8 Subtracting multi-digit whole numbers by using the standard algorithm, no carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Subtract from right to left.

Q.

$$\begin{array}{r} 536 \\ -\ 124 \\ \hline \square \end{array}$$

A.

hundreds	tens	units
5	3	6
	− 1	2 4
4	**1**	**2**

Units first!

Units:
6 − 4 = 2 ⇒ 2 units

Tens:
3 − 2 = 1 ⇒ 1 ten

Hundreds:
5 − 1 = 4 ⇒ 4 hundreds

a)

$$\begin{array}{r} 35 \\ -\ 2 \\ \hline 33 \end{array}$$

Units first!

b)

$$\begin{array}{r} 48 \\ -\ 6 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 27 \\ -\ 5 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 47 \\ -\ 15 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 26 \\ -\ 14 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 53 \\ -\ 22 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 29 \\ -\ 12 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 34 \\ -\ 13 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 44 \\ -\ 11 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 56 \\ -\ 22 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 57 \\ -\ 34 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 78 \\ -\ 43 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 65 \\ -\ 22 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 49 \\ -\ 37 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 69 \\ -\ 24 \\ \hline \square \end{array}$$

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Skill 5.8 Subtracting multi-digit whole numbers by using the standard algorithm, no carry (2).

p) 475 − 132 = ☐

q) 258 − 243 = ☐

r) 366 − 121 = ☐

s) 589 − 317 = ☐

t) 697 − 265 = ☐

u) 434 − 123 = ☐

v) 558 − 306 = ☐

w) 375 − 124 = ☐

x) 469 − 216 = ☐

y) 567 − 323 = ☐

z) 764 − 452 = ☐

A) 459 − 128 = ☐

B) 673 − 351 = ☐

C) 385 − 232 = ☐

D) 745 − 204 = ☐

E) 594 − 180 = ☐

F) 476 − 351 = ☐

G) 687 − 532 = ☐

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Skill 5.9 Subtracting multi-digit whole numbers by using the standard algorithm, with carry (1).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Subtract from right to left.

Q.

$$\begin{array}{r} 7\,0\,3 \\ -\,3\,2\,5 \\ \hline \boxed{} \end{array}$$

A.

hundreds tens units

$$\begin{array}{r} 7\,0\,3 \\ -\,3\,2\,5 \\ \hline \boxed{} \end{array}$$

Units:
3 – 5 = ? units. Not possible.
No tens are available.
Break down the 7 hundreds.

7 hundreds = 6 hundreds
+ 9 tens
+ 10 units

hundreds tens units

$$\begin{array}{r} \overset{6}{\cancel{7}}\,\overset{9}{\cancel{0}}\,\overset{1}{3} \\ -\,3\,2\,5 \\ \hline \boxed{\,\,8} \end{array}$$

Units first!

Re-group the 3 units with the 10 units to make 13 units.

Now...
13 – 5 = 8 ⇒ 8 units

hundreds tens units

$$\begin{array}{r} \overset{6}{\cancel{7}}\,\overset{9}{\cancel{0}}\,\overset{1}{3} \\ -\,3\,2\,5 \\ \hline \boxed{3\,7\,8} \end{array}$$

Tens next!

Tens:
9 – 2 = 7 ⇒ 7 tens

Hundreds:
6 – 3 = 3 ⇒ 3 hundreds

a)

$$\begin{array}{r} \overset{4}{\cancel{5}}\,\overset{1}{4} \\ -\,2\,6 \\ \hline \boxed{} \end{array}$$

Units first!

b)

$$\begin{array}{r} \overset{3}{\cancel{4}}\,\overset{1}{3} \\ -\,2\,5 \\ \hline \boxed{} \end{array}$$

c)

$$\begin{array}{r} 6\,8 \\ -\,3\,9 \\ \hline \boxed{} \end{array}$$

d)

$$\begin{array}{r} 3\,5 \\ -\,1\,8 \\ \hline \boxed{} \end{array}$$

e)

$$\begin{array}{r} 5\,3 \\ -\,2\,6 \\ \hline \boxed{} \end{array}$$

f)

$$\begin{array}{r} 7\,1 \\ -\,3\,5 \\ \hline \boxed{} \end{array}$$

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Skill 5.9 Subtracting multi-digit whole numbers by using the standard algorithm, with carry (2).

g) 68 − 39 = ☐

h) 52 − 17 = ☐

i) 45 − 29 = ☐

j) 52 − 18 = ☐

k) 534 − 26 = ☐

l) 352 − 17 = ☐

m) 495 − 148 = ☐

n) 642 − 327 = ☐

o) 356 − 219 = ☐

p) 263 − 137 = ☐

q) 516 − 342 = ☐

r) 437 − 184 = ☐

s) 400 − 154 = ☐

t) 300 − 125 = ☐

u) 620 − 141 = ☐

v) 470 − 179 = ☐

w) 503 − 234 = ☐

x) 406 − 328 = ☐

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Skill 5.10 Finding the unknown number in a subtraction number sentence.

- Guess the value of the missing number that will make the number sentence true. (Both sides of the number sentence must be equal).
- Fill in this value in the number sentence and check the subtraction.
  Hint: If the total on the left hand side of the number sentence is not enough then subtract a smaller number.
  If the total on the left hand side of the number sentence is too great then subtract a larger number.
- Keep guessing and checking until the number sentence is true.

Q. $14 - \square = 6$

A.
$14 - ? = 6$ Guess 10.
$14 - 10 = 4$ Subtracting 10 gives a total of 4 - not enough, so guess a smaller number.
$14 - \mathbf{8} = 6$ Guess 8.
Check again.

a) $18 - \square = 13$

$18 - 4 = 14$ *(too big)*

$18 - 5 = 13$ ✔

b) $29 - \square = 22$

$29 - 5 = 24$ *(too big)*

c) $\square - 11 = 16$

d) $\square - 13 = 15$

e) $16 - \square = 7$

f) $21 - \square = 13$

g) $25 - \square = 15$

h) $27 - \square = 16$

i) $\square - 18 = 9$

j) $\square - 12 = 4$

k) $18 - \square = 9$

l) $\square - 11 = 23$

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6. [× Whole Numbers]

Skill 6.1 Understanding different terms used for multiplication.

- Consider the words used with the numbers.
  Multiplication is associated with words like: ***multiplied by, lots of, times, groups of, twice as much, product of.***

Q. 3 groups of 2 are ☐

A. $3 \times 2 = \mathbf{6}$

'groups of' means multiplication

a) 8 multiplied by 5 is 40

b) 3 lots of 5 are ☐

c) 6 times 10 is ☐

d) 7 groups of 2 are ☐

e) 5 times 2 is ☐

f) 6 groups of 5 are ☐

g) 2 lots of 9 are ☐

h) 7 multiplied by 4 is ☐

i) 4 groups of 3 are ☐

j) 8 times 3 is ☐

k) 6 multiplied by 3 is ☐

l) 6 lots of 3 are ☐

m) 4 multiplied by 5 is ☐

n) 3 groups of 7 are ☐

o) 10 times 9 is ☐

p) 5 lots of 7 are ☐

q) 2 groups of 6 are ☐

r) 3 times 5 is ☐

s) 10 multiplied by 6 is ☐

t) 5 lots of 5 are ☐

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Skill 6.2 Multiplying the numbers from 1 to 10 by 2 or 4.

Multiplying a number by 2

- Add the number to itself. (Doubling)
  Hint: Think of the counting pattern by 2.

$1 \times 2 = \mathbf{2}$
$2 \times 2 = \mathbf{4}$
$3 \times 2 = \mathbf{6}$
$4 \times 2 = \mathbf{8}$
$5 \times 2 = \mathbf{10}$
$6 \times 2 = \mathbf{12}$
$7 \times 2 = \mathbf{14}$
$8 \times 2 = \mathbf{16}$
$9 \times 2 = \mathbf{18}$
$10 \times 2 = \mathbf{20}$
$11 \times 2 = \mathbf{22}$
$12 \times 2 = \mathbf{24}$

Multiplying a number by 4

- Double the number. Double the result.
  Hint: Think of the counting pattern by 4.

$1 \times 4 = \mathbf{4}$
$2 \times 4 = \mathbf{8}$
$3 \times 4 = \mathbf{12}$
$4 \times 4 = \mathbf{16}$
$5 \times 4 = \mathbf{20}$
$6 \times 4 = \mathbf{24}$
$7 \times 4 = \mathbf{28}$
$8 \times 4 = \mathbf{32}$
$9 \times 4 = \mathbf{36}$
$10 \times 4 = \mathbf{40}$
$11 \times 4 = \mathbf{44}$
$12 \times 4 = \mathbf{48}$

Q. $5 \times 4 = \square$

A. $5 \times 4 = \mathbf{20}$

Double 5 is 10.
Double 10 is 20.

a) $5 \times 2 = \square$

b) $3 \times 4 = \square$

c) $6 \times 4 = \square$

d) $8 \times 2 = \square$

e) $8 \times 4 = \square$

f) $4 \times 2 = \square$

g) $6 \times 2 = \square$

h) $2 \times 4 = \square$

i) $4 \times 4 = \square$

j) $7 \times 2 = \square$

k) $10 \times 2 = \square$

l) $7 \times 4 = \square$

m)

	3	6	5	8	4
× 2					

n)

	6	2	3	5	4
×4					

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Skill 6.3 Multiplying the numbers from 1 to 10 by 3.

Hint: Think of the counting pattern by 3.

$1 \times 3 = \mathbf{3}$
$2 \times 3 = \mathbf{6}$
$3 \times 3 = \mathbf{9}$
$4 \times 3 = \mathbf{12}$
$5 \times 3 = \mathbf{15}$
$6 \times 3 = \mathbf{18}$
$7 \times 3 = \mathbf{21}$
$8 \times 3 = \mathbf{24}$
$9 \times 3 = \mathbf{27}$
$10 \times 3 = \mathbf{30}$
$11 \times 3 = \mathbf{33}$
$12 \times 3 = \mathbf{36}$

Q. $6 \times 3 =$ ☐ **A.** $6 \times 3 = \mathbf{18}$

a) $5 \times 3 =$ ☐ **b)** $4 \times 3 =$ ☐

c) $1 \times 3 =$ ☐ **d)** $6 \times 3 =$ ☐

e) $2 \times 3 =$ ☐ **f)** $8 \times 3 =$ ☐

g) $7 \times 3 =$ ☐ **h)** $3 \times 3 =$ ☐

i) $10 \times 3 =$ ☐ **j)** $9 \times 3 =$ ☐

k) $11 \times 3 =$ ☐ **l)** $12 \times 3 =$ ☐

m)

	5	4	1	7	9
× 3					

n)

	6	3	2	8	10
×3					

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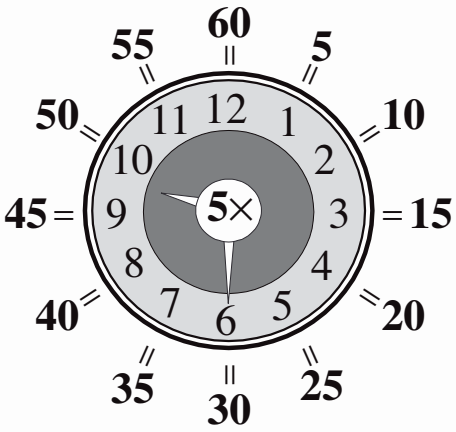
Skill 6.4 Multiplying the numbers from 1 to 10 by 5.

Hints: Think of the counting pattern by 5.
The last digits in the results are always a 0 or a 5.
Multiplying by 5 produces the same values as the minutes on a clock face.



$1 \times 5 = \mathbf{5}$
$2 \times 5 = \mathbf{10}$
$3 \times 5 = \mathbf{15}$
$4 \times 5 = \mathbf{20}$
$5 \times 5 = \mathbf{25}$
$6 \times 5 = \mathbf{30}$
$7 \times 5 = \mathbf{35}$
$8 \times 5 = \mathbf{40}$
$9 \times 5 = \mathbf{45}$
$10 \times 5 = \mathbf{50}$
$11 \times 5 = \mathbf{55}$
$12 \times 5 = \mathbf{60}$

Q. $6 \times 5 =$ ☐ **A.** $6 \times 5 = \mathbf{30}$

a) $5 \times 5 =$ ☐ **b)** $4 \times 5 =$ ☐

c) $1 \times 5 =$ ☐ **d)** $6 \times 5 =$ ☐

e) $2 \times 5 =$ ☐ **f)** $8 \times 5 =$ ☐

g) $7 \times 5 =$ ☐ **h)** $3 \times 5 =$ ☐

i) $10 \times 5 =$ ☐ **j)** $9 \times 5 =$ ☐

k) $11 \times 5 =$ ☐ **l)** $12 \times 5 =$ ☐

m)

	5	4	1	7	9
× 5					

n)

	6	3	2	8	10
×5					

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Skill 6.5 Multiplying the numbers from 1 to 10 by 6, 7 or 8.

Hint: Think of the counting pattern by 6.

$1 \times 6 = \mathbf{6}$
$2 \times 6 = \mathbf{12}$
$3 \times 6 = \mathbf{18}$
$4 \times 6 = \mathbf{24}$
$5 \times 6 = \mathbf{30}$
$6 \times 6 = \mathbf{36}$
$7 \times 6 = \mathbf{42}$
$8 \times 6 = \mathbf{48}$
$9 \times 6 = \mathbf{54}$
$10 \times 6 = \mathbf{60}$
$11 \times 6 = \mathbf{66}$
$12 \times 6 = \mathbf{72}$

Hint: Think of the counting pattern by 7.

$1 \times 7 = \mathbf{7}$
$2 \times 7 = \mathbf{14}$
$3 \times 7 = \mathbf{21}$
$4 \times 7 = \mathbf{28}$
$5 \times 7 = \mathbf{35}$
$6 \times 7 = \mathbf{42}$
$7 \times 7 = \mathbf{49}$
$8 \times 7 = \mathbf{56}$
$9 \times 7 = \mathbf{63}$
$10 \times 7 = \mathbf{70}$
$11 \times 7 = \mathbf{77}$
$12 \times 7 = \mathbf{84}$

Hint: Think of the counting pattern by 8.

$1 \times 8 = \mathbf{8}$
$2 \times 8 = \mathbf{16}$
$3 \times 8 = \mathbf{24}$
$4 \times 8 = \mathbf{32}$
$5 \times 8 = \mathbf{40}$
$6 \times 8 = \mathbf{48}$
$7 \times 8 = \mathbf{56}$
$8 \times 8 = \mathbf{64}$
$9 \times 8 = \mathbf{72}$
$10 \times 8 = \mathbf{80}$
$11 \times 8 = \mathbf{88}$
$12 \times 8 = \mathbf{96}$

Q. $6 \times 7 =$ ☐

A. $6 \times 7 = \mathbf{42}$

a) $3 \times 8 =$ ☐

b) $5 \times 7 =$ ☐

c) $8 \times 8 =$ ☐

d) $9 \times 6 =$ ☐

e) $4 \times 7 =$ ☐

f) $6 \times 8 =$ ☐

g) $4 \times 6 =$ ☐

h) $3 \times 7 =$ ☐

i) $2 \times 7 =$ ☐

j) $5 \times 8 =$ ☐

k)

	5	4	1	7	9
× 6					

l)

	6	1	8	7	9
× 7					

m)

	7	9	2	4	10
× 8					

n)

	6	3	2	8	10
× 6					

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Skill 6.6 Multiplying the numbers from 1 to 10 by 9.

Hints: Think of the counting pattern by 9.
Apart from 11×9, the digits in the results always add to 9.
Example: $2 \times 9 = 18 \quad \Rightarrow \quad 1 + 8 = 9$

$1 \times 9 = \mathbf{9}$
$2 \times 9 = \mathbf{18}$
$3 \times 9 = \mathbf{27}$
$4 \times 9 = \mathbf{36}$
$5 \times 9 = \mathbf{45}$
$6 \times 9 = \mathbf{54}$
$7 \times 9 = \mathbf{63}$
$8 \times 9 = \mathbf{72}$
$9 \times 9 = \mathbf{81}$
$10 \times 9 = \mathbf{90}$
$11 \times 9 = \mathbf{99}$
$12 \times 9 = \mathbf{108}$

Q. $7 \times 9 =$ ☐ **A.** $7 \times 9 = \mathbf{63}$

a) $5 \times 9 =$ ☐ **b)** $4 \times 9 =$ ☐

c) $1 \times 9 =$ ☐ **d)** $6 \times 9 =$ ☐

e) $2 \times 9 =$ ☐ **f)** $8 \times 9 =$ ☐

g) $7 \times 9 =$ ☐ **h)** $3 \times 9 =$ ☐

i) $10 \times 9 =$ ☐ **j)** $9 \times 9 =$ ☐

k) $11 \times 9 =$ ☐ **l)** $12 \times 9 =$ ☐

m)

	2	3	7	10	9
× 9					

n)

	8	1	6	4	5
× 9					

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Skill 6.7 Multiplying the numbers from 1 to 10 by 10 or a multiple of 10.

Multiplying by 10

- Add a zero to the end of the number.
  Example: $6 \times 10 = 60$

$1 \times 10 = 10$
$2 \times 10 = 20$
$3 \times 10 = 30$
$4 \times 10 = 40$
$5 \times 10 = 50$
$6 \times 10 = 60$
$7 \times 10 = 70$
$8 \times 10 = 80$
$9 \times 10 = 90$
$10 \times 10 = 100$
$11 \times 10 = 110$
$12 \times 10 = 120$

Multiplying by a multiple of 10

- Multiply the two numbers, ignoring the zero.
- Add a zero to the end of the result.
  Example: $7 \times 30 = 210$

Q. $4 \times 80 =$ ☐

A. $4 \times 80 = 320$

$4 \times 8 = 32$

Add a zero after the 32.

a) $30 \times 6 =$ ☐

b) $50 \times 9 =$ ☐

c) $40 \times 5 =$ ☐

d) $7 \times 60 =$ ☐

e) $8 \times 70 =$ ☐

f) $3 \times 80 =$ ☐

g) $90 \times 2 =$ ☐

h) $20 \times 6 =$ ☐

i) $60 \times 4 =$ ☐

j) $6 \times 70 =$ ☐

k)

	2	10	4	6	5
×10					

l)

	1	9	3	7	8
×10					

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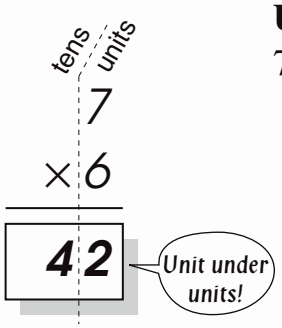
Skill 6.8 Multiplying two 1-digit numbers by using the standard algorithm.

- Write the result of the multiplication with the unit under the 1-digit numbers.

Q.

$$\begin{array}{r} 7 \\ \times\ 6 \\ \hline \square \end{array}$$

A.



Units:
$7 \times 6 = 42$

a)

$$\begin{array}{r} 8 \\ \times\ 5 \\ \hline \square \end{array}$$

b)

$$\begin{array}{r} 3 \\ \times\ 4 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 5 \\ \times\ 5 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 6 \\ \times\ 9 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 7 \\ \times\ 5 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 9 \\ \times\ 8 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 4 \\ \times\ 7 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 9 \\ \times\ 3 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 8 \\ \times\ 2 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 8 \\ \times\ 8 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 6 \\ \times\ 3 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 3 \\ \times\ 8 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 8 \\ \times\ 6 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 7 \\ \times\ 7 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 8 \\ \times\ 7 \\ \hline \square \end{array}$$

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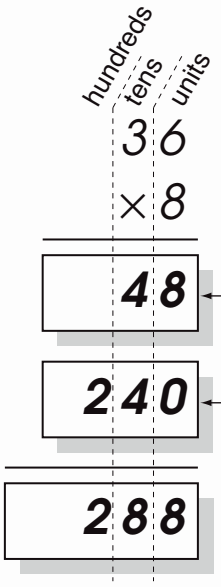
Skill 6.9 Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm and showing the partial sums (1).

- Multiply the units by the single digit.
- Write the result with the unit under the 1-digit number.
- Multiply the tens by the single digit.
- Write the new result under the first result, with the unit under the 1-digit number.
- Add the two results from right to left to complete the multiplication.

Q.

$$\begin{array}{r} 3\ 6 \\ \times\ \ 8 \\ \hline \square \leftarrow 8 \times 6 \text{ units} \\ +\ \square \leftarrow 8 \times 3 \text{ tens} \\ \hline \square \end{array}$$

A.



Units:
$8 \times 6 = 48 \quad \Rightarrow 48$ units
Tens:
$8 \times 3 = 24 \quad \Rightarrow 24$ tens
$48 + 240 = 288$

a)

$$\begin{array}{r} 2\ 5 \\ \times\ \ 7 \\ \hline 3\ 5 \leftarrow 7 \times 5 \text{ units} \\ +\ 1\ 4\ 0 \leftarrow 7 \times 2 \text{ tens} \\ \hline \square \end{array}$$

b)

$$\begin{array}{r} 3\ 2 \\ \times\ \ 8 \\ \hline 1\ 6 \leftarrow 8 \times 2 \text{ units} \\ +\ 2\ 4\ 0 \leftarrow 8 \times 3 \text{ tens} \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 5\ 9 \\ \times\ \ 4 \\ \hline 3\ 6 \leftarrow 4 \times 9 \text{ units} \\ +\ 2\ 0\ 0 \leftarrow 4 \times 5 \text{ tens} \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 2\ 8 \\ \times\ \ 5 \\ \hline 4\ 0 \leftarrow 5 \times 8 \text{ units} \\ +\ 1\ 0\ 0 \leftarrow 5 \times 2 \text{ tens} \\ \hline \square \end{array}$$

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Skill 6.9 Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm and showing the partial sums (2).

e)

$$\begin{array}{r} 5\ 3 \\ \times\ \ 5 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 5×3 units

← 5×5 tens

f)

$$\begin{array}{r} 7\ 2 \\ \times\ \ 9 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 9×2 units

← 9×7 tens

g)

$$\begin{array}{r} 4\ 4 \\ \times\ \ 6 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 6×4 units

← 6×4 tens

h)

$$\begin{array}{r} 4\ 6 \\ \times\ \ 3 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 3×6 units

← 3×4 tens

i)

$$\begin{array}{r} 6\ 2 \\ \times\ \ 8 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 8×2 units

← 8×6 tens

j)

$$\begin{array}{r} 3\ 7 \\ \times\ \ 4 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 4×7 units

← 4×3 tens

k)

$$\begin{array}{r} 4\ 9 \\ \times\ \ 7 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 7×9 units

← 7×4 tens

l)

$$\begin{array}{r} 7\ 8 \\ \times\ \ 3 \\ \hline \square \\ +\ \square \\ \hline \square \end{array}$$

← 3×8 units

← 3×7 tens

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Skill 6.10 Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm (1).

Multiply with no carry

- Multiply the units, tens and hundreds by the single digit.
- Multiply from right to left.

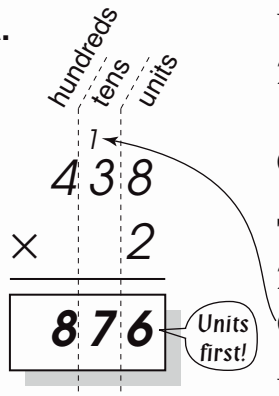
Multiply with carry

- Multiply the units, tens and hundreds by the single digit.
- Multiply from right to left.
- If there is a 'carry over':
  First multiply.
  Then add on the carry over.

Q.

$$\begin{array}{r} 438 \\ \times \quad 2 \\ \hline \square \end{array}$$

A.



Units:
$2 \times 8 = 16$
16 units = 1 ten and 6 units $\Rightarrow$ 6 units
Carry over the 1 ten to the tens column.

Tens:
$2 \times 3 = 6$
$6 + 1$ (carry over) $= 7$ $\Rightarrow$ 7 tens

Hundreds:
$2 \times 4 = 8$ $\Rightarrow$ 8 hundreds

a)

$$\begin{array}{r} 31 \\ \times \quad 3 \\ \hline 93 \end{array}$$

Units first!

b)

$$\begin{array}{r} 22 \\ \times \quad 2 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 34 \\ \times \quad 2 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 32 \\ \times \quad 3 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 41 \\ \times \quad 2 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 12 \\ \times \quad 4 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 102 \\ \times \quad 3 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 121 \\ \times \quad 2 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 313 \\ \times \quad 2 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 434 \\ \times \quad 2 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 122 \\ \times \quad 4 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 103 \\ \times \quad 3 \\ \hline \square \end{array}$$

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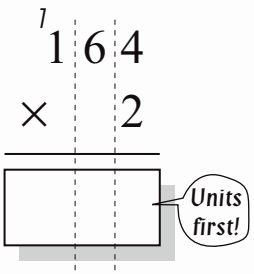
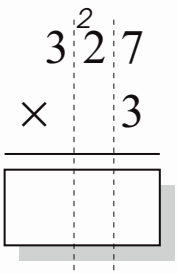
Skill 6.10 Multiplying a 2-digit number by a 1-digit number, by using the standard algorithm (2).

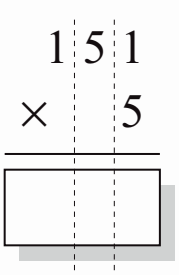
m)



n)



o)



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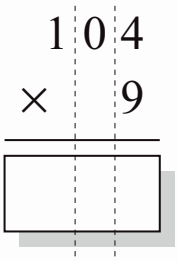
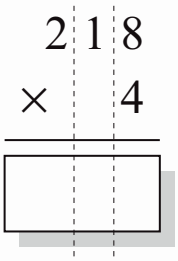
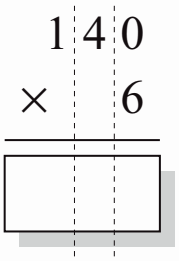


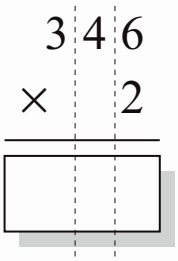
q)



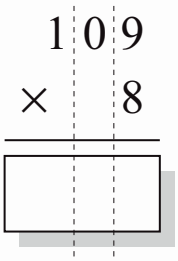
r)



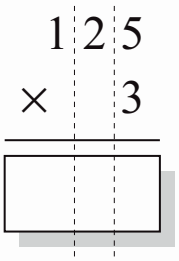
s)



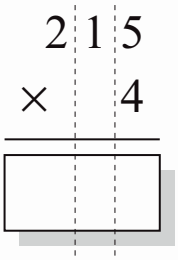
t)



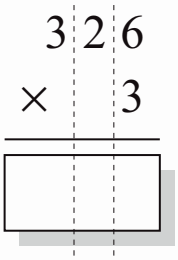
u)



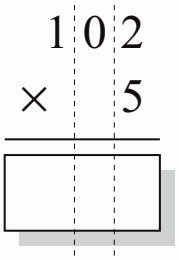
v)



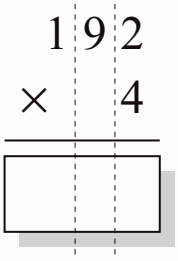
w)



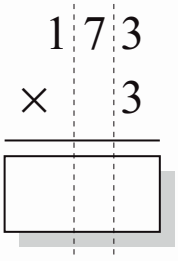
x)



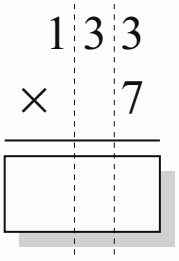
y)



z)



A)



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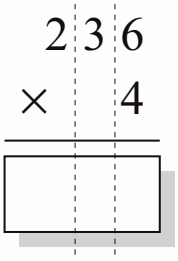

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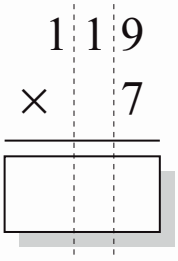
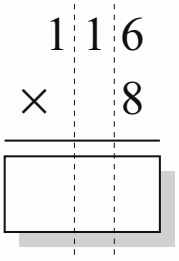


D)



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Skill 6.11 Multiplying three 1-digit numbers.

- Multiply two of the three numbers first, by choosing two that give a simple answer.
- Multiply the answer by the third number.

Hint: When multiplying 3 or more numbers, the order is not important (multiplication is associative).

Q. $3 \times 9 \times 2 =$ ☐

A. $3 \times 9 \times 2 =$
$= 3 \times 2 \times 9$
$= 6 \times 9$
$= \mathbf{54}$

Choose 3 and 2 to multiply first.

Multiply 6 and 9.

a) $2 \times 6 \times 5 =$

$= 2 \times 5 \times 6$

$= 10 \times 6 =$ ☐

b) $2 \times 9 \times 4 =$

$= 2 \times 4 \times 9$

$= 8 \times 9 =$ ☐

c) $9 \times 5 \times 2 =$

$=$ .....

$=$ ..... $=$ ☐

d) $7 \times 4 \times 2 =$

$=$ .....

$=$ ..... $=$ ☐

e) $5 \times 8 \times 2 =$

$=$ .....

$=$ ..... $=$ ☐

f) $6 \times 3 \times 2 =$

$=$ .....

$=$ ..... $=$ ☐

g) $4 \times 6 \times 2 =$

$=$ .....

$=$ ..... $=$ ☐

h) $2 \times 3 \times 8 =$

$=$ .....

$=$ ..... $=$ ☐

i) $5 \times 6 \times 9 =$

$=$ .....

$=$ ..... $=$ ☐

j) $7 \times 5 \times 8 =$

$=$ .....

$=$ ..... $=$ ☐

k) $6 \times 2 \times 5 =$

$=$ .....

$=$ ..... $=$ ☐

l) $6 \times 4 \times 5 =$

$=$ .....

$=$ ..... $=$ ☐

m) $6 \times 8 \times 2 =$

$=$ .....

$=$ ..... $=$ ☐

n) $9 \times 8 \times 5 =$

$=$ .....

$=$ ..... $=$ ☐

o) $5 \times 6 \times 7 =$

$=$ .....

$=$ ..... $=$ ☐

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7. [÷ Whole Numbers]

Skill 7.1 Understanding different terms used for division.

- Consider the words used with the numbers.
  Division is associated with words like: ***how many in, divided by, shared between, equally shared.***

Q. How many 2s in 10?

A. $10 \div 2 = \mathbf{5}$

'how many 2s in' means division

a) 20 shared between 2 is 10

b) 25 divided by 5 is

c) How many 5s in 15?

d) 24 shared between 3 is

e) 12 divided by 2 is

f) How many 5s in 20?

g) 21 shared between 3 is

h) 16 divided by 2 is

i) How many 3s in 27?

j) 6 divided by 3 is

k) 18 shared between 3 is

l) How many 3s in 12?

m) 30 shared between 5 is

n) 18 divided by 2 is

o) How many 2s in 14?

p) 10 shared between 5 is

q) 24 shared between 4 is

r) 45 shared between 5 is

s) 40 divided by 10 is

t) How many 5s in 35?

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Skill 7.2 Dividing by 1 or 10.

Dividing by 1

- Write the given number as the result.
  Hint: dividing any number by 1 leaves the number unchanged.

Dividing by 10

- Remove one zero from the given number.

Q. $90 \div 10 = \square$

A. $9\cancel{0} \div 1\cancel{0} = \mathbf{9}$

a) $5 \div 1 = \square$

b) $30 \div 10 = \square$

c) $60 \div 10 = \square$

d) $2 \div 1 = \square$

e) $8 \div 1 = \square$

f) $50 \div 10 = \square$

g) $4 \div 1 = \square$

h) $80 \div 10 = \square$

i) $10 \div 10 = \square$

j) $6 \div 1 = \square$

k) $3 \div 1 = \square$

l) $9 \div 1 = \square$

m) $70 \div 10 = \square$

n) $20 \div 10 = \square$

o) $40 \div 10 = \square$

p) $7 \div 1 = \square$

q) $100 \div 10 = \square$

r) $12 \div 1 = \square$

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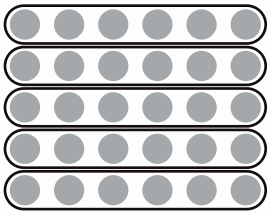
Skill 7.3 Dividing by whole numbers from 1 to 10 by using arrays (1).

- Look at the number you divide by.
- Circle dots to make that number of equal groups.
- Count the number of dots in each group to complete the division.

Q. $30 \div 5 =$ ☐

A. $30 \div 5 = 6$

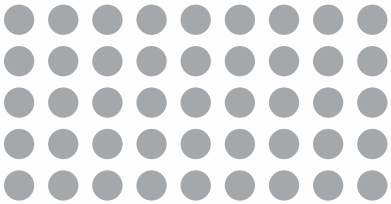
the number you divide by



There are 6 dots in each group.

a) $12 \div 3 =$ ☐

b) $45 \div 5 =$ ☐

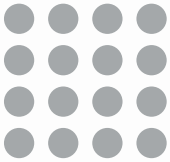


c) $18 \div 3 =$ ☐

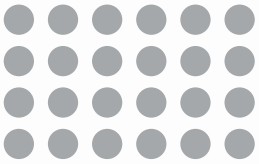
d) $15 \div 3 =$ ☐

e) $15 \div 5 =$ ☐

f) $16 \div 4 =$ ☐



g) $24 \div 4 =$ ☐



h) $30 \div 3 =$ ☐

i) $14 \div 2 =$ ☐

j) $20 \div 2 =$ ☐

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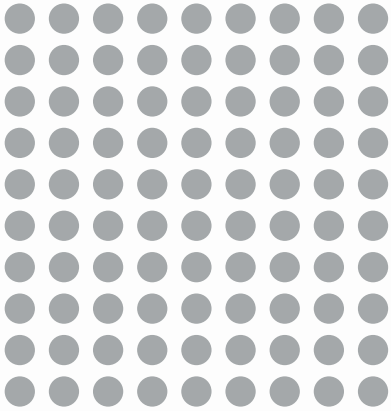
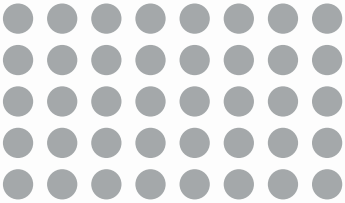
k) $90 \div 10 =$ ☐

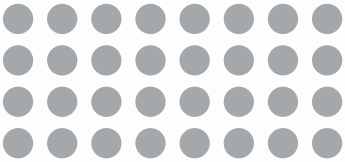


l) $40 \div 5 =$ ☐

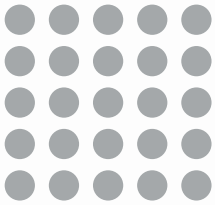


m) $12 \div 2 =$ ☐

n) $32 \div 4 =$ ☐

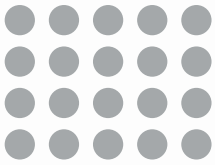


o) $25 \div 5 =$ ☐



p) $27 \div 3 =$ ☐

q) $20 \div 4 =$ ☐



r) $30 \div 10 =$ ☐

s) $27 \div 3 =$ ☐

t) $16 \div 2 =$ ☐

u) $24 \div 8 =$ ☐

v) $18 \div 6 =$ ☐

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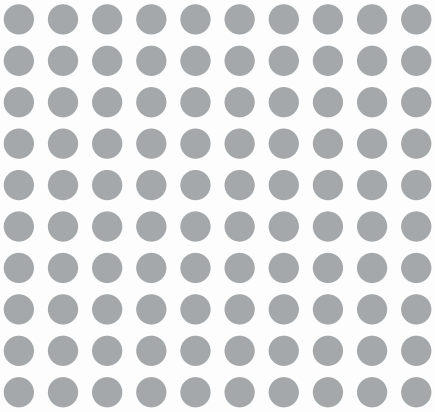

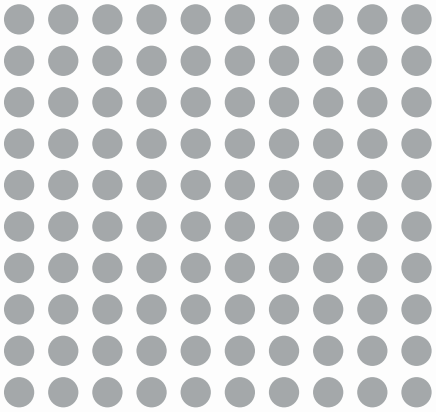

w)

	24	6	30	27	15
÷ 3					

x)

	30	20	5	45	10
÷ 5					

y)

	4	12	20	16	18
÷ 2					

z)

	80	20	50	90	30
÷ 10					

A)

	10	45	15	35	20
÷ 5					

B)

	20	28	8	16	40
÷ 4					

C)

	6	18	36	60	42
÷ 6					

D)

	90	10	40	20	60
÷ 10					

E)

	81	27	54	9	63
÷ 9					

F)

	49	35	14	21	70
÷ 7					

G)

	7	56	28	42	63
÷ 7					

H)

	40	16	48	64	32
÷ 8					

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Skill 7.4 Dividing by 1-digit numbers by using the standard algorithm.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Divide the hundreds, tens and units by the single digit.
- Divide from left to right.

Q. $2\overline{)608}$

A. hundreds first! $\boxed{304}$

$2\overline{)608}$

hundreds tens units

Hundreds:
$6 \div 2 = 3 \quad \Rightarrow$ 3 hundreds

Tens:
$0 \div 2 = 0 \quad \Rightarrow$ 0 tens

Units:
$8 \div 2 = 4 \quad \Rightarrow$ 4 units

a) tens first! $\boxed{12}$ $3\overline{)36}$

b) $2\overline{)64}$

c) $4\overline{)84}$

d) $5\overline{)45}$

e) $8\overline{)48}$

f) $9\overline{)81}$

g) $6\overline{)24}$

h) $8\overline{)72}$

i) $6\overline{)36}$

j) $3\overline{)903}$

k) $3\overline{)306}$

l) $2\overline{)468}$

m) $2\overline{)602}$

n) $4\overline{)488}$

o) $4\overline{)804}$

p) $3\overline{)693}$

q) $2\overline{)824}$

r) $5\overline{)505}$

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Skill 7.5 Finding the unknown number in a division number sentence (1).

- Guess the value of the missing number that will make the number sentence true. (Both sides of the number sentence must be equal).
- Fill in this value in the number sentence and check the division.
  Hint: Dividing by a smaller number gives a larger result.
  Dividing by a larger number gives a smaller result.
- Keep guessing and checking until the number sentence is true.

Q. $63 \div \square = 9$

A. $63 \div ? = 9$ Guess 3.
$63 \div 3 = 21$ Dividing by 3 gives 21 (too big).
$63 \div \mathbf{7} = 9$ Guess 7.
Check again.

a) $18 \div \square = 3$

$18 \div 3 = 6$ *(too big)*

$18 \div 6 = 3$ ✔

b) $15 \div \square = 5$

$15 \div 5 = 3$ *(not enough)*

c) $\square \div 2 = 8$

d) $\square \div 4 = 7$

e) $48 \div \square = 6$

f) $45 \div \square = 9$

g) $18 \div \square = 9$

h) $32 \div \square = 8$

i) $\square \div 7 = 3$

j) $\square \div 6 = 6$

k) $70 \div \square = 7$

l) $\square \div 5 = 6$

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m) $\square \div 3 = 8$

n) $28 \div \square = 4$

o) $25 \div \square = 5$

p) $64 \div \square = 8$

q) $36 \div \square = 9$

r) $\square \div 8 = 5$

s) $\square \div 6 = 5$

t) $\square \div 9 = 3$

u) $\square \div 10 = 8$

v) $\square \div 3 = 7$

w) $12 \div \square = 6$

x) $42 \div \square = 7$

y) $56 \div \square = 7$

z) $21 \div \square = 3$

A) $\square \div 4 = 8$

B) $\square \div 2 = 12$

C) $\square \div 5 = 11$

D) $\square \div 7 = 9$

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8. [Word Problems]

Skill 8.1 Solving word problems using addition.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Write a number sentence using the facts.
  Hint: Use the terms to help decide on the operation. (see skill 4.1 pg 79)

Q. To ride the monorail at Disneyland takes 9 minutes. The Pirates of the Caribbean ride lasts 16 minutes. If you took both rides, how long would they take in total?
[Write the number sentence.]

A. ***9*** + ***16*** = ***25*** *min*

Add the 9 minutes for the first ride, and the 16 minutes for the second ride.
'both' asks for the 'total' which means 'addition'.

a) The average lifespan of a housefly is 14 days. The average lifespan of a bee is 18 days longer. For how many days is a bee likely to live?

= days

b) The Pier 39 Carousel has 32 rides. The LA Zoo Carousel has 34 more rides than the Pier 39 Carousel. How many rides does the LA Zoo Carousel have?

=

c) Uranus has 27 moons. Neptune has 14 moons. How many moons do these planets have altogether?

=

d) The pasta took 20 minutes to cook. Next the apple pie went into the oven for 45 minutes. How long did everything take to cook?

= min

e) The average human brain weighs 1500 g and the average human heart weighs 290 g. How much is their combined weight?

= g

f) Alex drove 660 km from Melbourne to Canberra. Then he drove another 290 km to Sydney. How far did Alex drive in total?

= km

g) The Rialto Tower in Melbourne has 63 floors. The Eureka Tower has 29 more floors than Rialto Tower. How many floors does the Eureka Tower have?

=

h) At Disneyland, the King Arthur Carousel has 68 horses and the Haunted Mansion has 999 spooks. How many horses and spooks all together?

=

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Skill 8.2 Solving word problems using subtraction.

- Write a number sentence using the facts.
  Hint: Use the terms to help decide on the operation. (see skill 5.1 pg 91)

Q. Africa has 54 countries. North America has 23 countries. How many more countries are in Africa than in North America?

A. ***54 – 23 = 31***

Subtract the smaller number from the larger number.

'How many more' asks for the 'difference' which means 'subtraction'.

a) There have been 56 missions to Mars but only 26 have been successful. How many missions to Mars have not been successful?

=

b) A baseball has 108 stitches and a cricket ball has 70 stitches. How many more stitches does a baseball have?

=

c) Chuck had 16 minutes. He took 8 minutes to boil an egg. How much time did Chuck have left?

= min

d) There are 26 bones and 33 joints in the foot. How many more joints than bones are in the foot?

=

e) The brain of a chimpanzee weighs 420 grams. The brain of a horse weighs 530 grams. What is the difference between these weights?

= g

f) There are 25 birds in the gaggle of geese and 57 birds in the murder of crows. How many more crows are there than geese?

=

g) A Chinese checkers board has 121 holes. A scrabble board has 225 squares. How many more squares than holes on these game boards?

=

h) South Korea has the world's longest golf hole. It is 1003 m long. The longest drive ever was 503 m long. What is the difference between these lengths?

= m

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- Write a multiplication number sentence using the facts.
  Hints: Always multiply to find a number a few times greater than another number.
  Always multiply to find the total number of parts of some objects, when the number of objects and the number of parts of each object are given.

Q. Septuplets are seven children born at one birth. There are 4 sets of septuplets in the world at the moment where every septuplet survived. How many septuplets is this altogether?

A. *4 sets of septuplets*
7 children in each set
$\Rightarrow$ $4 \times 7 = 28$

a) If 1 marble weighs 28 grams, how much would 10 marbles weigh?

10 marbles, 28 g each

$10 \times 28 =$ g

b) Each muffin costs $4.00. How much do you have to pay for 8 muffins?

.....

=

c) One egg costs 50 cents. A loaf of bread costs 7 times more. How much does a loaf of bread cost?

.....

= $

d) Insects have 6 legs. If you have 9 insects, how many insect legs are there altogether?

.....

=

e) Raffle tickets sell for $2.00 each. How much money did Chel collect if she sold 40 tickets?

.....

= $

f) Spiders have 8 legs. If you have 3 spiders, how many spider legs are there altogether?

.....

=

g) For every 100 people, 9 are likely to be left handed. If there were 300 people in the room, how many would be left handed?

.....

=

h) If you double the height of a 2 year old you get their adult height. Alex was 90 cm when he was 2. How tall will Alex be as an adult?

.....

= cm

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Skill 8.4 Solving word problems using division.

- Write a division number sentence using the facts.
  Hint: Always divide to find a number of objects in each group, after equal sharing.
  Always divide by 2 to find one half of a quantity.

Q. Christmas cards are wrapped in packs of 10. How many packs are needed to wrap 80 cards?

A. *80 cards equally shared in packs of 10*
How many groups of 10 in 80?
⇒ ***80 ÷ 10 = 8***

a) Men's kayak single race measures 1000 m. Women's kayak single race is half of this. How long is the women's kayak single race?

1000 m ÷ 2 =

= m

b) Lydia bought a $720 watch. She has to pay it in eight equal monthly instalments. How much does she have to pay every month?

= $

c) Eggs are packed in cartons of 12 (a dozen). If you need 48 eggs, how many cartons do you have to buy?

=

d) Mary has $180 in her bank account. She makes equal withdrawals of $20 each. How many withdrawals can she make?

=

e) There are 18 chapters in 'Harry Potter and the Chamber of Secrets'. Laura reads 3 chapters every day. In how many days will Laura finish reading the book?

= days

f) There are 9 seats in a minibus. How many minibuses are needed to take all 30 students and their teacher to the Zoo?

=

g) Donna is inviting 7 friends to a party. She has 21 cupcakes. How many cupcakes will each friend receive?

=

h) Pencils are sold in packs of 8. How many packs are needed for a class of 32 students?

=

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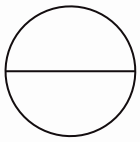
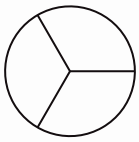
9. [Fractions]

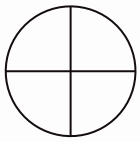
Skill 9.1 Recognising fractions as part of a whole.



halves - 2 equal parts



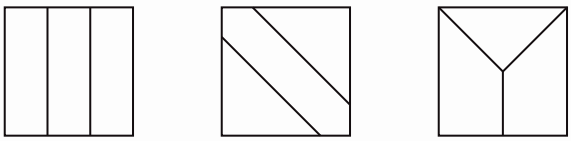
thirds - 3 equal parts



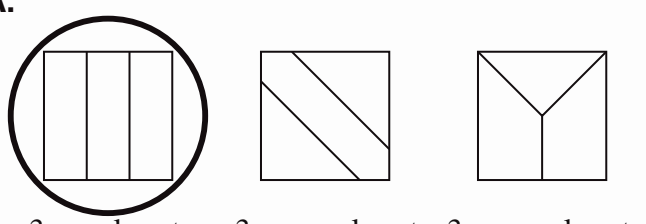
quarters - 4 equal parts

- Find the number of parts in each shape.
- Match the number of parts with the fraction given.
- Check that the parts are of equal size.

Q. Circle the picture that shows thirds.

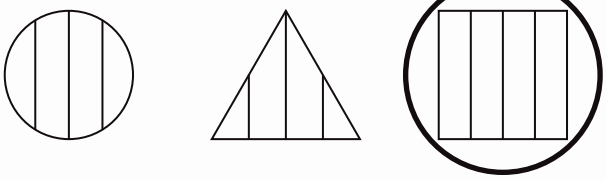


A.

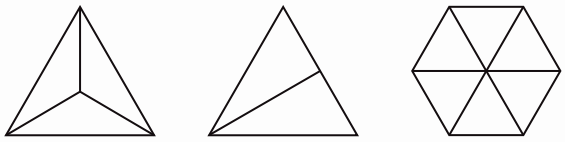


3 equal parts | 3 unequal parts | 3 unequal parts

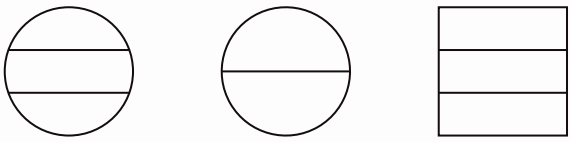
a) Circle the picture that shows quarters.



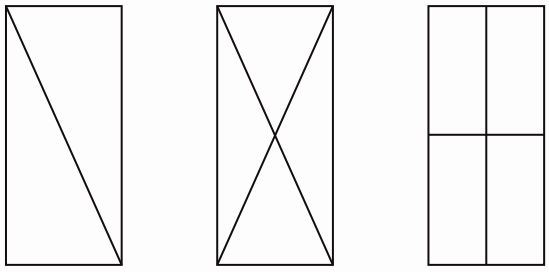
b) Circle the picture that shows halves.



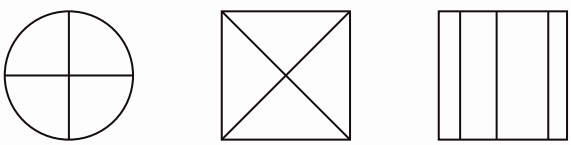
c) Circle the picture that shows thirds.



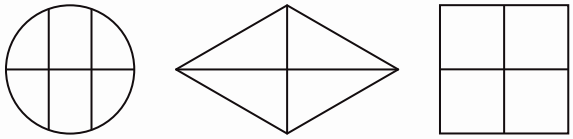
d) Circle the picture that shows halves.



e) Circle the pictures that show quarters.



f) Circle the pictures that show quarters.



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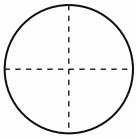
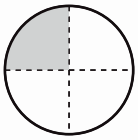
Skill 9.2 Illustrating fractions as part of a whole by shading parts of a diagram (1).

one half	one third	one quarter	one fifth	one sixth	one seventh	one eighth	one ninth
$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{6}$	$\frac{1}{7}$	$\frac{1}{8}$	$\frac{1}{9}$

- First find the smallest part that the shape is divided into.
- Colour the number of parts needed.

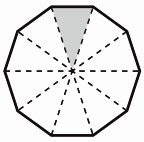
Q. Colour one quarter of the circle.



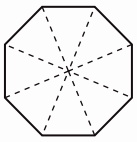
A.  [any sector]

the smallest part = one quarter

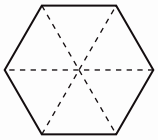
a) Colour one tenth of the decagon.

 [any small triangle]

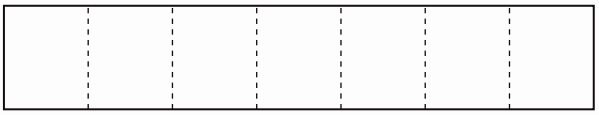
b) Colour one eighth of the octagon.



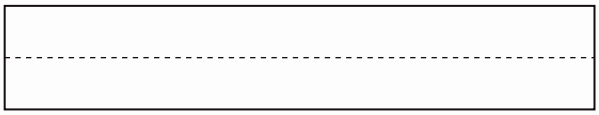
c) Colour one sixth of the hexagon.



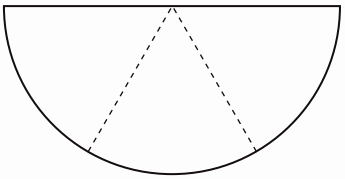
d) Colour one seventh of the rectangle.



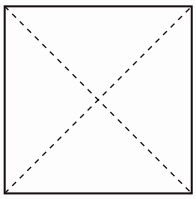
e) Colour one half of the rectangle.



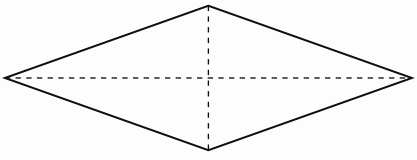
f) Colour one third of the semicircle.



g) Colour two quarters of the square.



h) Colour three quarters of the rhombus.



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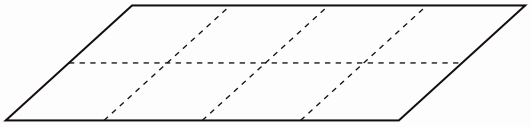
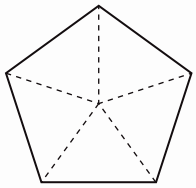
Skill 9.2 Illustrating fractions as part of a whole by shading parts of a diagram (2).

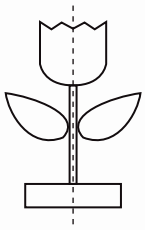
i) Colour five eighths of the parallelogram.



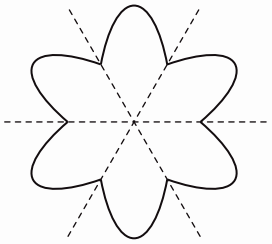
j) Colour three fifths of the pentagon.



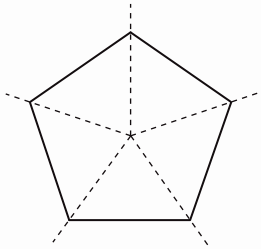
k) Colour $\frac{1}{2}$ of the flower.



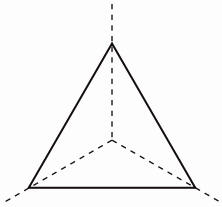
l) Colour $\frac{1}{6}$ of the flower.



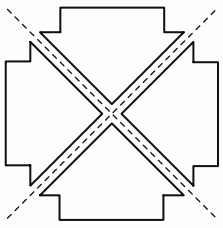
m) Colour $\frac{3}{5}$ of the pentagon.



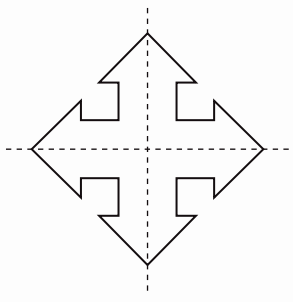
n) Colour $\frac{2}{3}$ of the triangle.



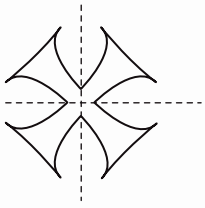
o) Colour $\frac{3}{4}$ of the symbol.



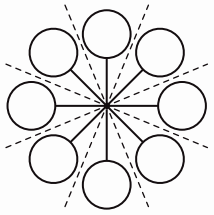
p) Colour $\frac{1}{4}$ of the symbol.



q) Colour $\frac{2}{4}$ of the emblem.



r) Colour $\frac{5}{8}$ of the symbol.



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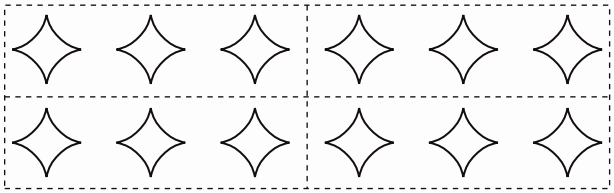
Skill 9.3 Illustrating fractions as part of a group by shading parts of a diagram (1).

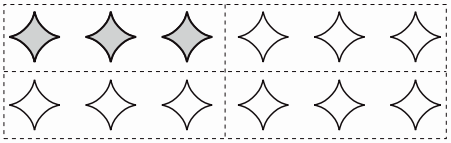
Hint: The dotted lines show the collection divided into the parts needed.

- Colour the shapes in the number of parts needed.

Q. Colour one quarter of the shapes.

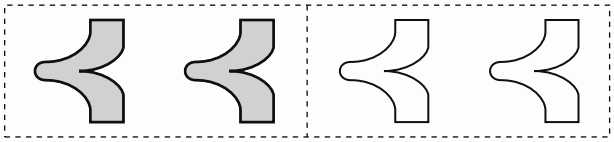


A.



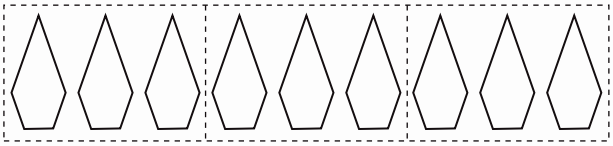
A quarter of $12 = 12 \div 4 = 3$
Any 3 shapes are a quarter.

a) Colour one half of the shapes.

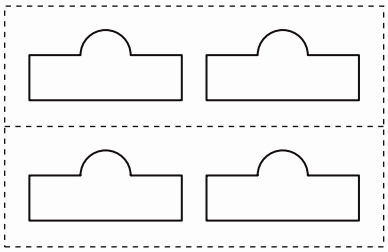


[any 2 shapes]

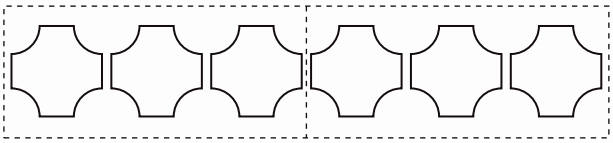
b) Colour one third of the shapes.



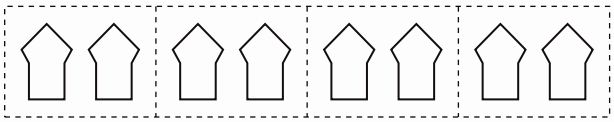
c) Colour one half of the shapes.



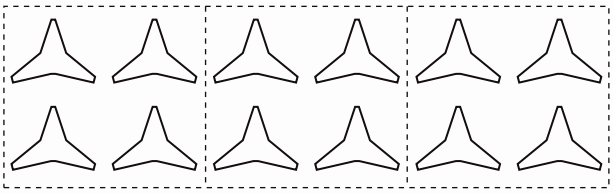
d) Colour one half of the shapes.



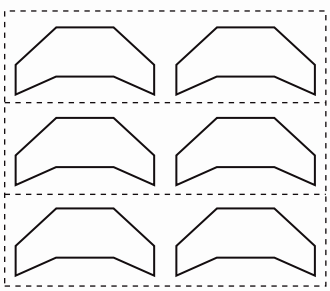
e) Colour one quarter of the shapes.



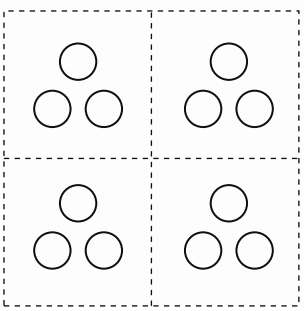
f) Colour one third of the shapes.



g) Colour one third of the shapes.



h) Colour one quarter of the shapes.



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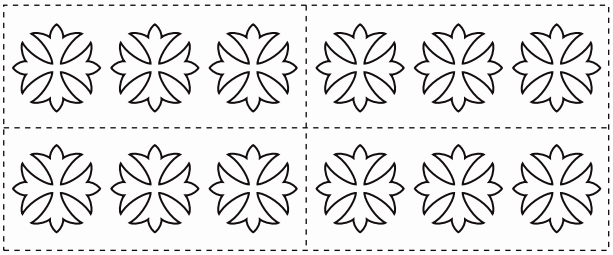
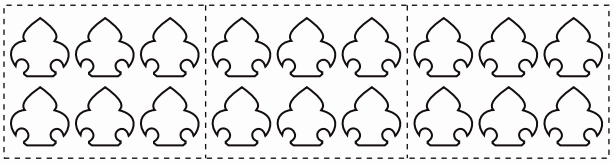
Skill 9.3 Illustrating fractions as part of a group by shading parts of a diagram (2).

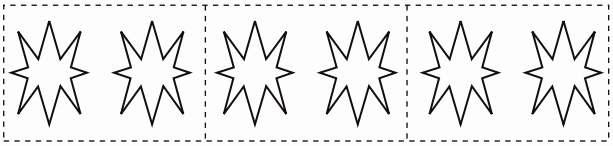
i) Colour one quarter of the shapes.



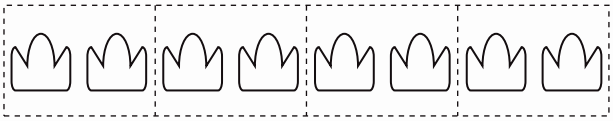
j) Colour one third of the shapes.



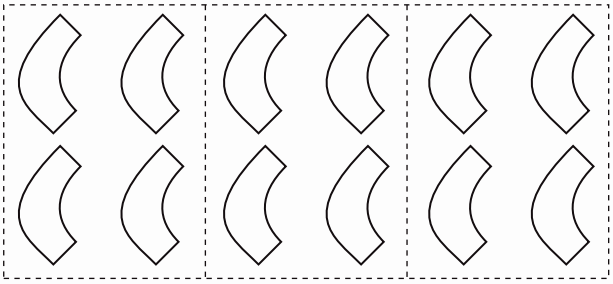
k) Colour two thirds of the shapes.



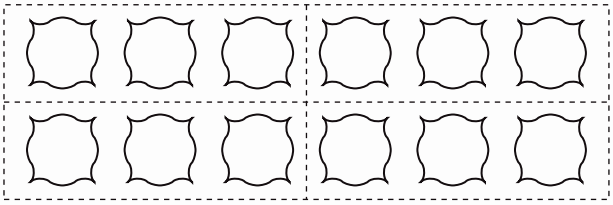
l) Colour three quarters of the shapes.



m) Colour two thirds of the shapes.

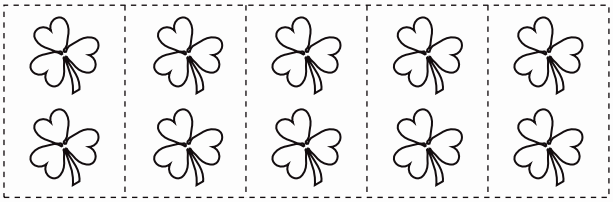


n) Colour three quarters of the shapes.

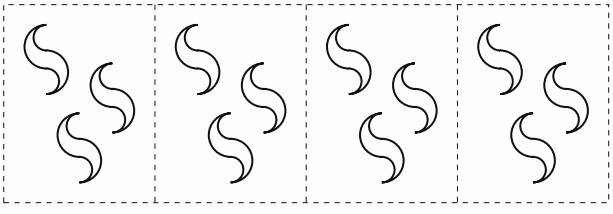


o) Colour two thirds of the shapes.

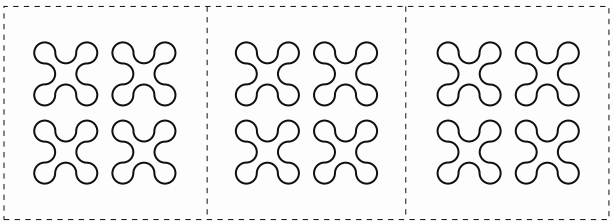
p) Colour two fifths of the shapes.



q) Colour three quarters of the shapes.



r) Colour two thirds of the shapes.



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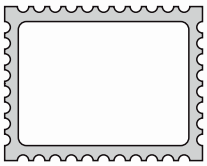
Skill 9.4 Illustrating fractions as part of a whole by drawing dividing lines in a diagram (1).

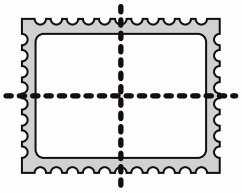
Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Draw a line, or lines, to divide the shape into an equal number of identical parts as needed.
  Example: To divide this shape into halves, draw a vertical line through the middle of the shape.

Q. Draw lines to divide the stamp into quarters.

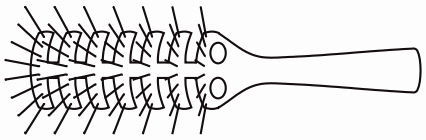


A.



Draw a vertical line through the middle of the shape.
Draw a horizontal line through the middle of the shape.

a) Draw a line to divide the hair brush into halves.

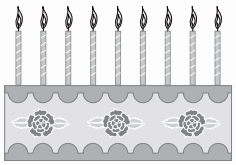


b) Draw a line to divide the penguin into halves.

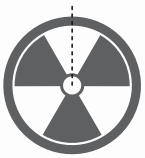
c) Draw a line to divide the glass into halves.

d) Draw a line to divide the hat into halves.

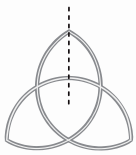
e) Draw lines to divide the cake into thirds.



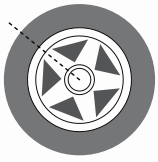
f) Draw lines to divide the symbol into thirds. [A line has been drawn for you.]



g) Draw lines to divide the symbol into thirds. [A line has been drawn for you.]



h) Draw lines to divide the tyre into fifths. [A line has been drawn for you.]



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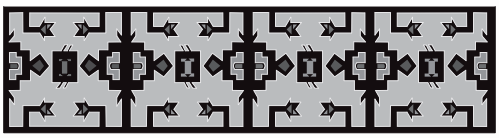
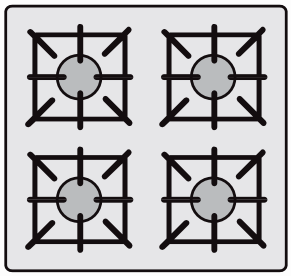
Skill 9.4 Illustrating fractions as part of a whole by drawing dividing lines in a diagram (2).

i) Draw lines to divide the rug into quarters.

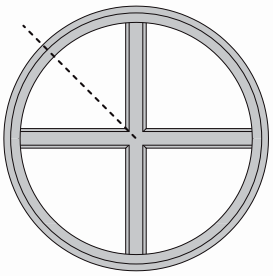


j) Draw lines to divide the coat hanger rack into quarters.

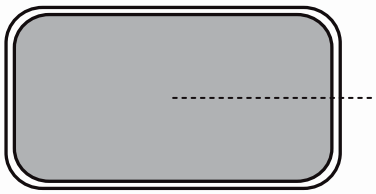
k) Draw lines to divide the stove top into quarters.



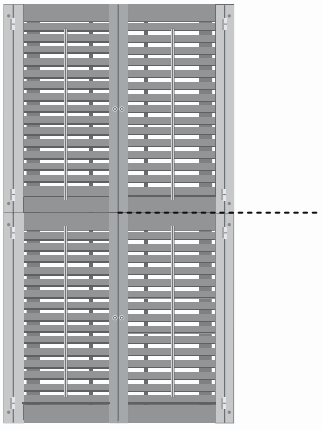
l) Draw lines to divide the round window into eighths. [A line has been drawn for you.]



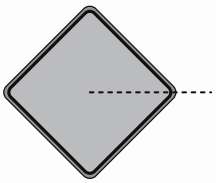
m) Draw lines to divide the shape into quarters. [A line has been drawn for you.]



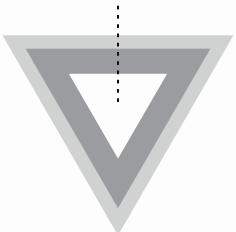
n) Draw lines to divide the window into quarters.



o) Draw lines to divide the shape into quarters. [A line has been drawn for you.]



p) Draw lines to divide the shape into thirds. [A line has been drawn for you.]



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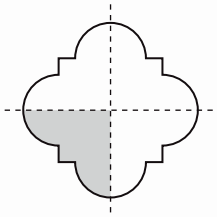
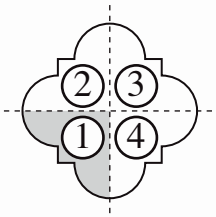
Skill 9.5 Writing fractions to represent parts of a whole.

- Count the shaded parts of the whole shape.
- Write this number as the top number of the fraction.
- Count the total number of parts in the whole shape.
- Write this number as the bottom number of the fraction.

Q. Write a fraction for the shaded part.

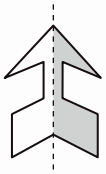


A. $\frac{1}{4}$



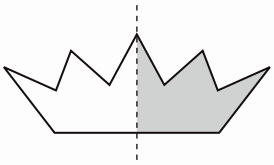
1 out of 4 parts shaded.

a) Write a fraction for the shaded part.



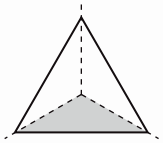
$\frac{\square}{\square}$

b) Write a fraction for the shaded part.



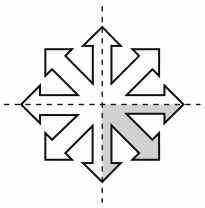
$\frac{\square}{\square}$

c) Write a fraction for the shaded part.



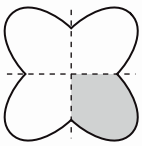
$\frac{\square}{\square}$

d) Write a fraction for the shaded part.



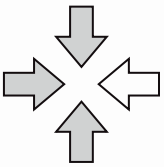
$\frac{\square}{\square}$

e) Write a fraction for the shaded part.



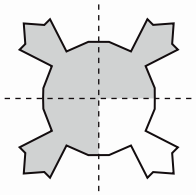
$\frac{\square}{\square}$

f) Write a fraction for the shaded part.



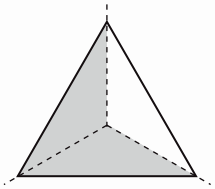
$\frac{\square}{\square}$

g) Write a fraction for the shaded part.



$\frac{\square}{\square}$

h) Write a fraction for the shaded part.



$\frac{\square}{\square}$

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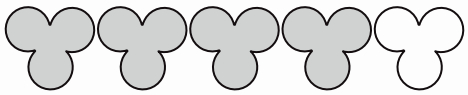
Skill 9.6 Writing fractions to represent parts of a group.

- Count the shaded shapes in the group.
- Write this number as the top number of the fraction.
- Count the total number of shapes in the group.
- Write this number as the bottom number of the fraction.

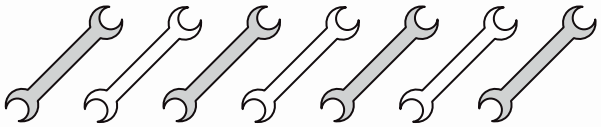
Q. Write a fraction for the shaded part of the group.



A. $\frac{4}{5}$

4 out of 5 shapes are shaded.

a) What part of the group is shaded?

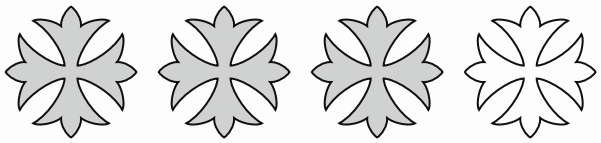


☐ out of ☐

b) What part of the group is shaded?

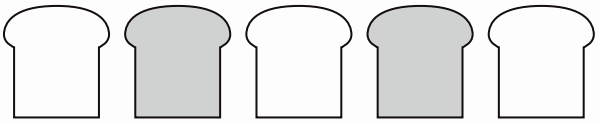
☐ out of ☐

c) What part of the group is shaded?



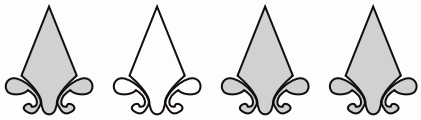
☐ out of ☐

d) What part of the group is shaded?



☐ out of ☐

e) Write a fraction for the shaded part of the group.



$\frac{\square}{\square}$

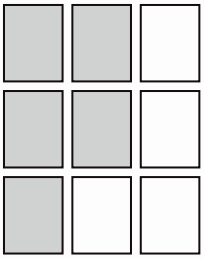
f) Write a fraction for the shaded part of the group.

$\frac{\square}{\square}$

g) Write a fraction for the shaded part of the group.

$\frac{\square}{\square}$

h) Write a fraction for the shaded part of the group.



$\frac{\square}{\square}$

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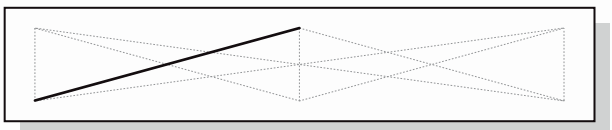
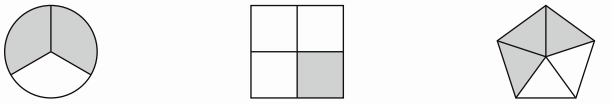
Skill 9.7 Matching fractions to diagrams (1).

- Join with a line the fraction and the diagram that has a number of parts equal to the bottom number of that fraction.

Q. Match the fractions to the shapes.

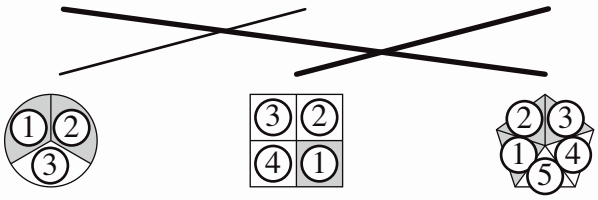
$\frac{3}{5}$ $\frac{2}{3}$ $\frac{1}{4}$





A.

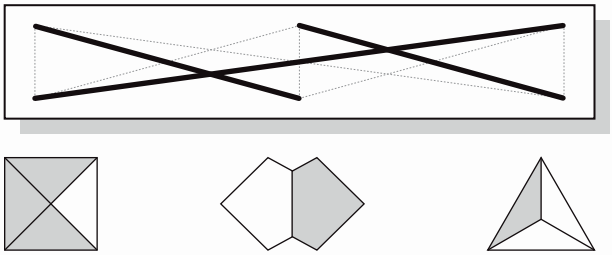
$\frac{3}{5}$ $\frac{2}{3}$ $\frac{1}{4}$



3 parts 4 parts 5 parts

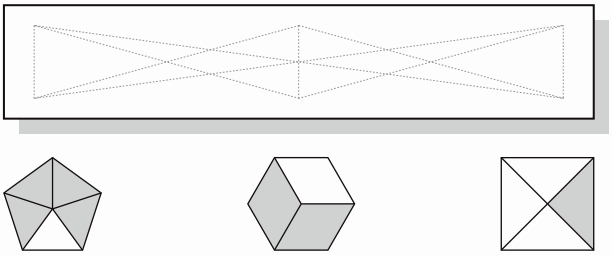
a) Match the fractions to the shapes.

$\frac{1}{2}$ $\frac{1}{3}$ $\frac{3}{4}$



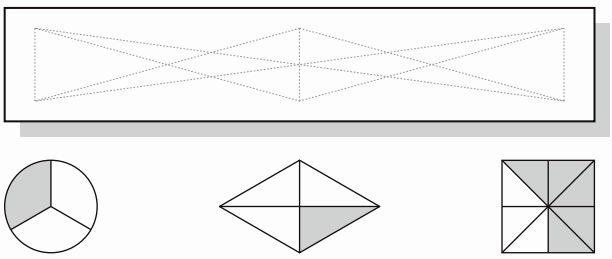
b) Match the fractions to the shapes.

$\frac{1}{4}$ $\frac{2}{3}$ $\frac{4}{5}$



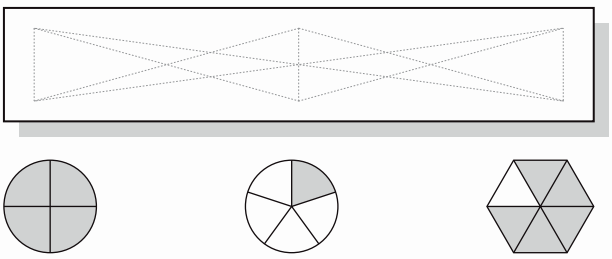
c) Match the fractions to the shapes.

$\frac{5}{8}$ $\frac{1}{3}$ $\frac{1}{4}$



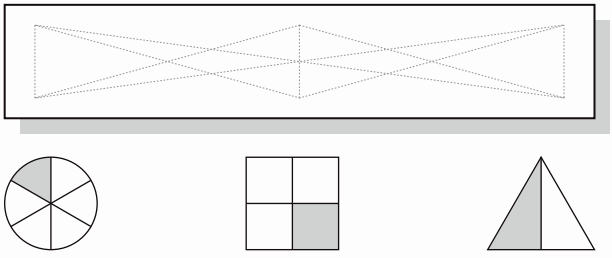
d) Match the fractions to the shapes.

$\frac{5}{6}$ $\frac{1}{5}$ $\frac{4}{4}$



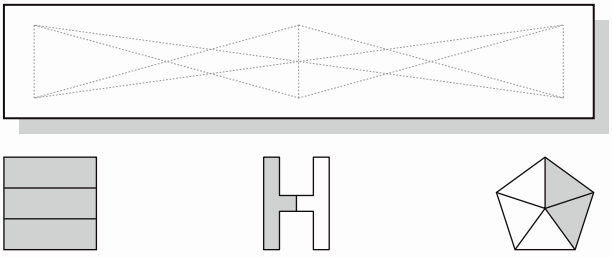
e) Match the fractions to the shapes.

$\frac{1}{6}$ $\frac{1}{2}$ $\frac{1}{4}$



f) Match the fractions to the shapes.

$\frac{1}{2}$ $\frac{3}{3}$ $\frac{2}{5}$



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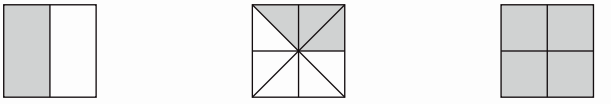
Skill 9.7 Matching fractions to diagrams (2).

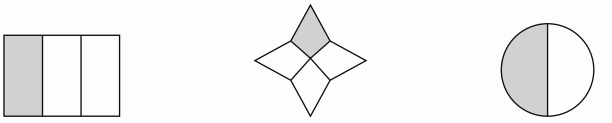
g) Match the fractions to the shapes.

$\frac{3}{8}$ $\frac{4}{4}$ $\frac{1}{2}$



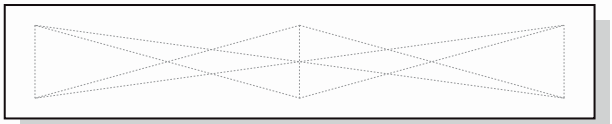
h) Match the fractions to the shapes.

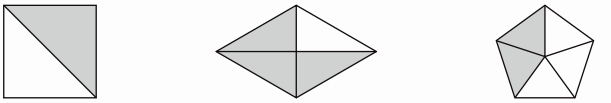
$\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{3}$



i) Match the fractions to the shapes.

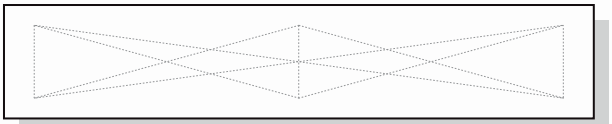
$\frac{2}{5}$ $\frac{3}{4}$ $\frac{1}{2}$

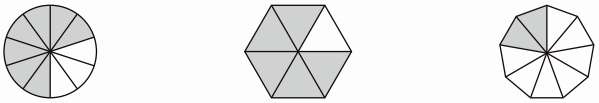




j) Match the fractions to the shapes.

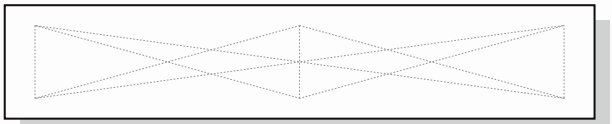
$\frac{5}{6}$ $\frac{2}{9}$ $\frac{7}{10}$

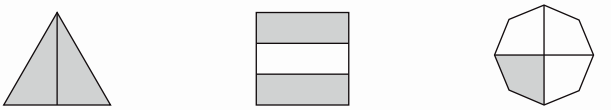




k) Match the fractions to the shapes.

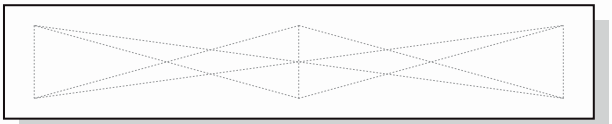
$\frac{2}{2}$ $\frac{1}{4}$ $\frac{2}{3}$

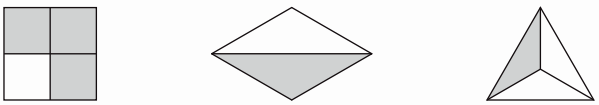




l) Match the fractions to the shapes.

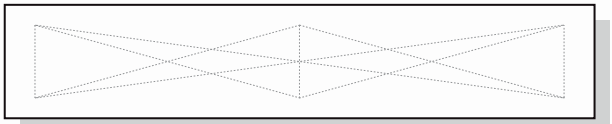
$\frac{1}{3}$ $\frac{3}{4}$ $\frac{1}{2}$

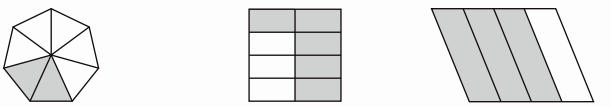




m) Match the fractions to the shapes.

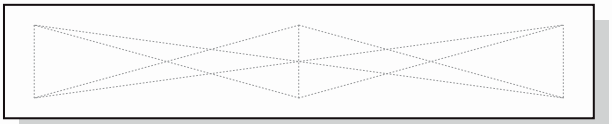
$\frac{5}{8}$ $\frac{2}{7}$ $\frac{3}{4}$

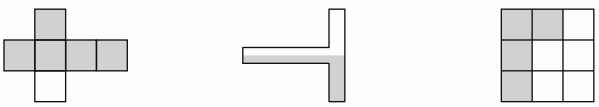




n) Match the fractions to the shapes.

$\frac{1}{2}$ $\frac{4}{9}$ $\frac{5}{6}$





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Skill 9.8 Reading and illustrating fractions on a number line (1).

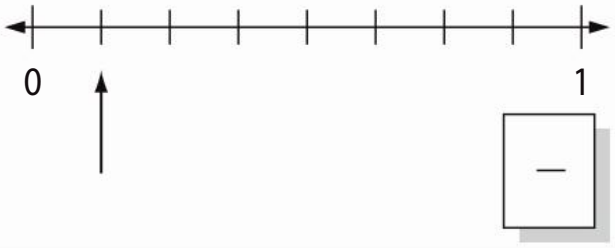
To read a fraction

- Count the spaces between 0 and 1.
- Write this number as the bottom number of the fraction.
- Count the spaces to the arrow.
- Write this number as the top number of the fraction.

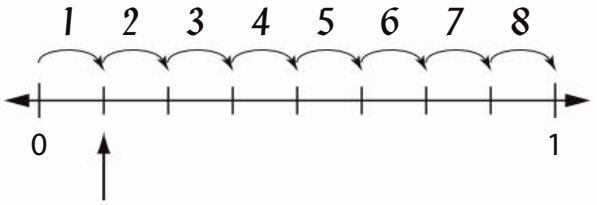
To illustrate a fraction

- Check that the number line has the same number of spaces as shown by the bottom number of the fraction.
- Count the number of spaces as shown by the top number and draw an arrow.

Q. What fraction is shown by the arrow on the number line?

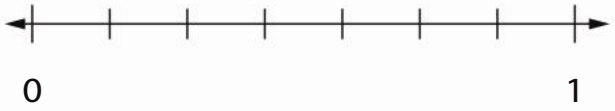


A. $\frac{1}{8}$

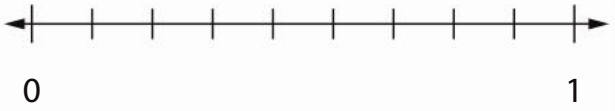


There are 8 spaces between 0 and 1.

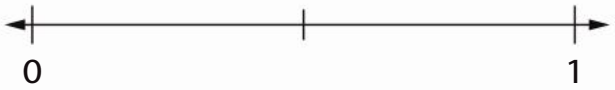
a) Show with an arrow the fraction $\frac{1}{7}$ on the number line.



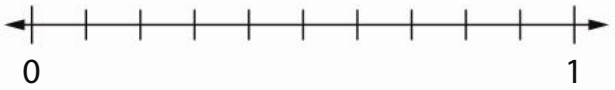
b) Show with an arrow the fraction $\frac{1}{9}$ on the number line.



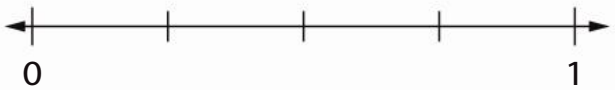
c) Show with an arrow the fraction $\frac{1}{2}$ on the number line.



d) Show with an arrow the fraction $\frac{1}{10}$ on the number line.

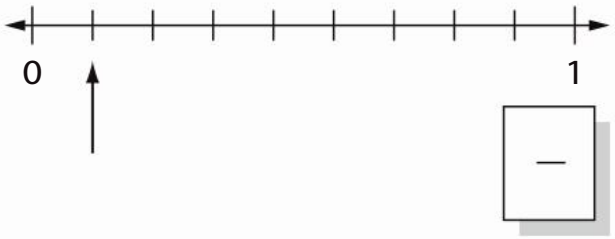


e) Show with an arrow the fraction $\frac{3}{4}$ on the number line.

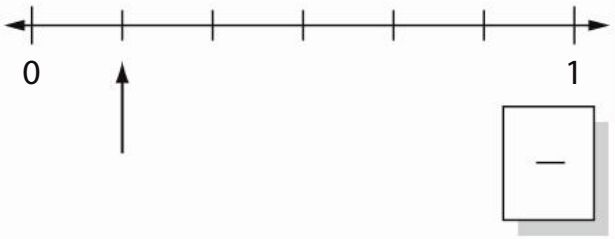


f) Show with an arrow the fraction $\frac{1}{5}$ on the number line.

g) What fraction is shown by the arrow on the number line?



h) What fraction is shown by the arrow on the number line?



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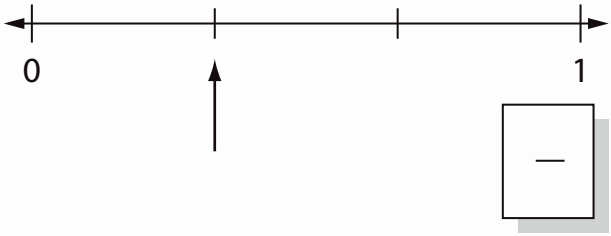
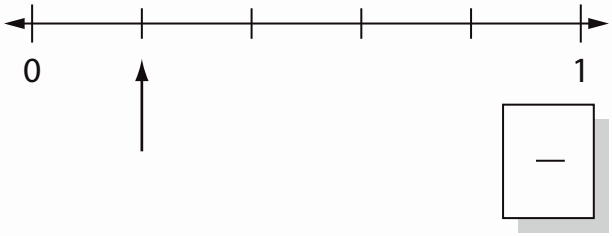
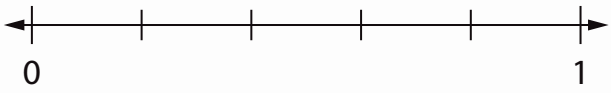
i) What fraction is shown by the arrow on the number line?



j) What fraction is shown by the arrow on the number line?

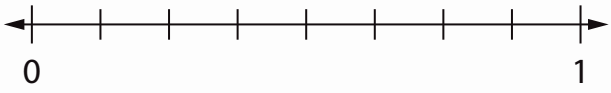


k) Show with an arrow the fraction $\frac{3}{5}$ on the number line.

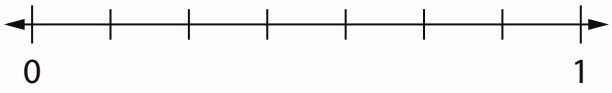


l) Show with an arrow the fraction $\frac{5}{6}$ on the number line.

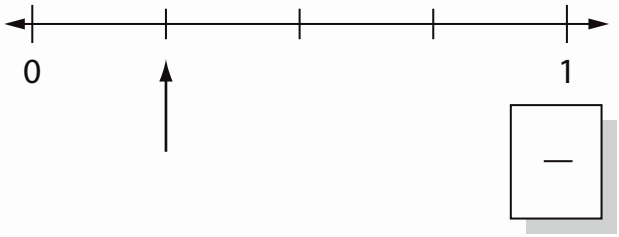
m) Show with an arrow the fraction $\frac{3}{8}$ on the number line.



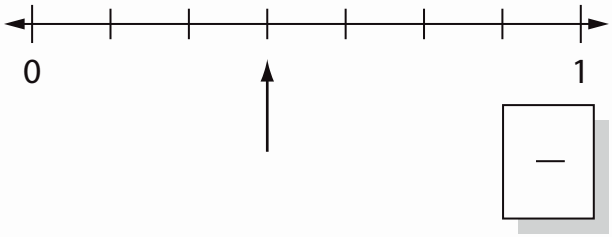
n) Show with an arrow the fraction $\frac{4}{7}$ on the number line.



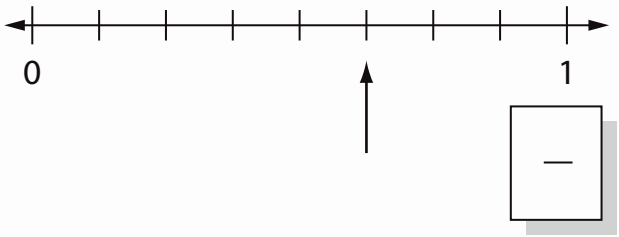
o) What fraction is shown by the arrow on the number line?



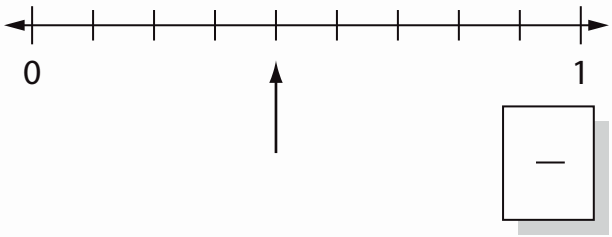
p) What fraction is shown by the arrow on the number line?



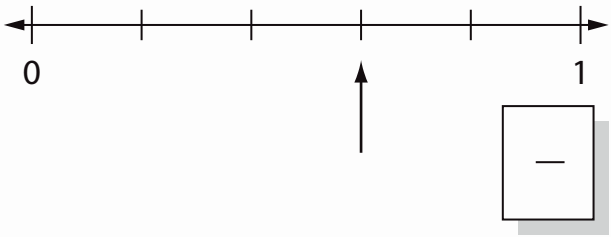
q) What fraction is shown by the arrow on the number line?



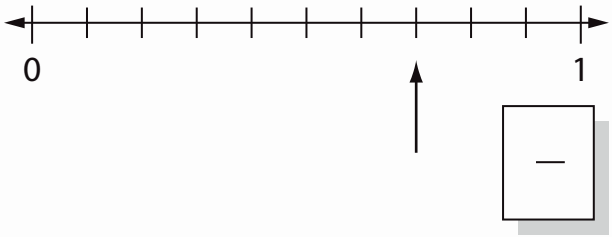
r) What fraction is shown by the arrow on the number line?



s) What fraction is shown by the arrow on the number line?



t) What fraction is shown by the arrow on the number line?



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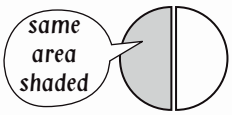
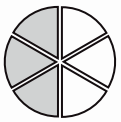
Skill 9.9 Completing equivalent fractions (1).



2 equal parts
1 part shaded
$\frac{1}{2}$ of the circle is shaded

4 equal parts
2 parts shaded
$\frac{2}{4}$ of the circle is shaded



6 equal parts
3 parts shaded
$\frac{3}{6}$ of the circle is shaded

8 equal parts
4 parts shaded
$\frac{4}{8}$ of the circle is shaded

The fractions $\frac{1}{2}$, $\frac{2}{4}$, $\frac{3}{6}$ and $\frac{4}{8}$ are all equivalent. You can write: $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$

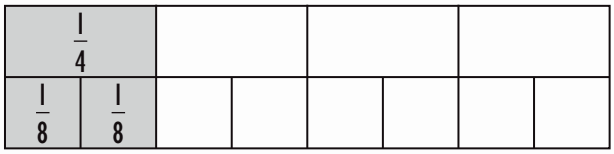
To find an equivalent fraction from a given diagram

- Read the shaded fractions from both fraction bars.
- Complete the missing number in one of the fractions.

To find an equivalent fraction by drawing a diagram

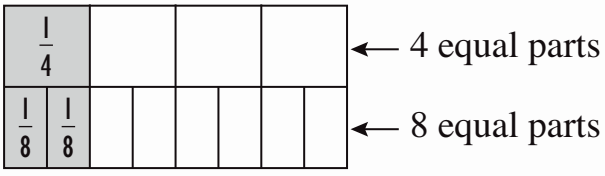
- Draw two fraction bars one under the other.
- Divide each box in equal parts, as shown by the denominators.
- Shade both fraction bars to show the given fraction.
- Read the second fraction from the bottom fraction bar.

Q. Complete the equivalent fractions.

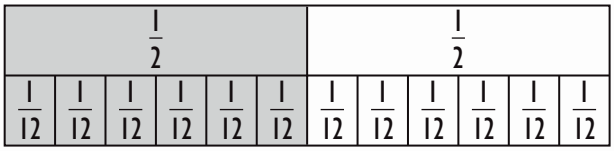


$\frac{1}{4} = \frac{\square}{8}$

A. $\frac{1}{4} = \frac{2}{8}$

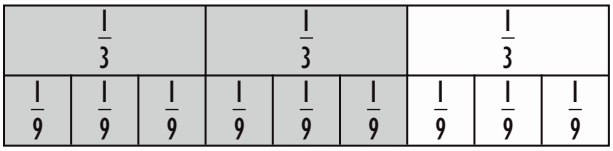


a) Complete the equivalent fractions.



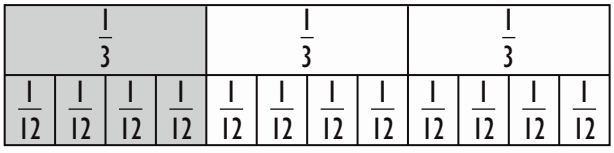
$\frac{1}{2} = \frac{\square}{12}$

b) Complete the equivalent fractions.



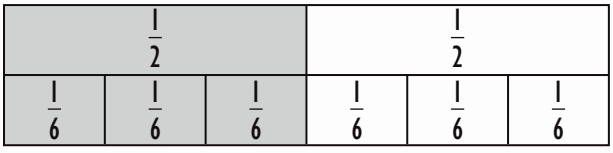
$\frac{2}{3} = \frac{\square}{9}$

c) Complete the equivalent fractions.



$\frac{1}{3} = \frac{\square}{12}$

d) Complete the equivalent fractions.



$\frac{1}{2} = \frac{\square}{6}$

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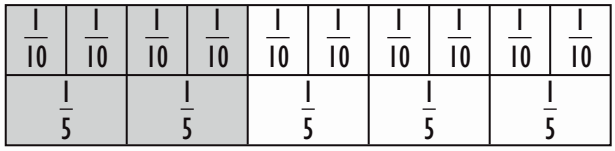
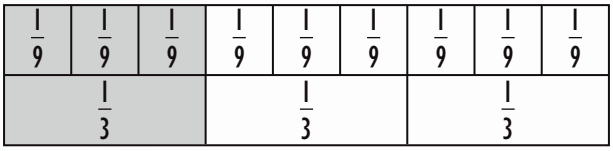
e) Complete the equivalent fractions.



$\frac{4}{10} = \frac{\square}{5}$

f) Complete the equivalent fractions.



$\frac{3}{9} = \frac{\square}{3}$

g) Complete the equivalent fractions.

$\frac{1}{4} = \frac{\square}{12}$

h) Complete the equivalent fractions.

$\frac{1}{2} = \frac{\square}{18}$

i) Complete the equivalent fractions.

$\frac{2}{5} = \frac{\square}{15}$

j) Complete the equivalent fractions.

$\frac{3}{4} = \frac{\square}{16}$

k) Complete the equivalent fractions.

$\frac{2}{5} = \frac{\square}{10}$

l) Complete the equivalent fractions.

$\frac{3}{5} = \frac{\square}{20}$

m) Complete the equivalent fractions.

$\frac{9}{12} = \frac{\square}{4}$

n) Complete the equivalent fractions.

$\frac{5}{20} = \frac{\square}{4}$

o) Complete the equivalent fractions.

$\frac{4}{12} = \frac{\square}{3}$

p) Complete the equivalent fractions.

$\frac{12}{16} = \frac{\square}{8}$

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Skill 9.10 Comparing two fractions with the same denominators.

Using fraction bars

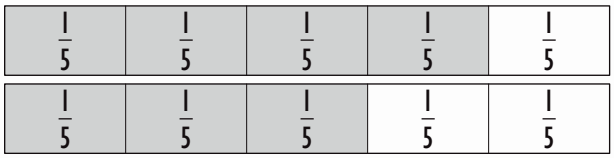
- Compare the size of the two shaded areas.
- Use < if the area showing the first fraction is smaller than the area showing the second fraction.
- Use = if the areas are equal.
- Use > if the area showing the first fraction is greater than the area showing the second fraction.

Using a number line

- Compare the position of the fractions on the number line.
- Use < if the first fraction is to the left of the second fraction on the number line.
- Use = if the two fractions are at the same point on the number line.
- Use > if the first fraction is to the right o the second fraction on the number line.

Hint: The fraction with the larger numerator is greater.

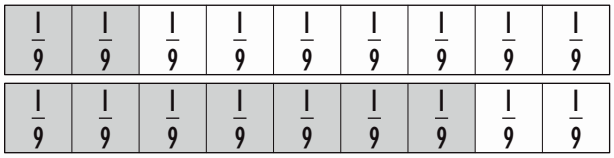
Q. Use <, = or > to make this true.



$\frac{4}{5}$ ☐ $\frac{3}{5}$

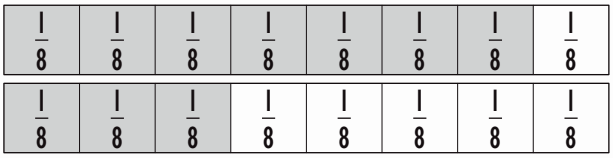
A. $\frac{4}{5} > \frac{3}{5}$ 4 is greater than 3.

a) Use <, = or > to make this true.



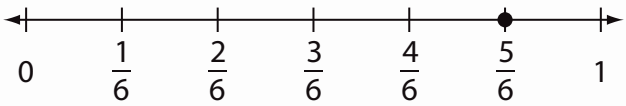
$\frac{2}{9}$ ☐ $\frac{7}{9}$

b) Use <, = or > to make this true.



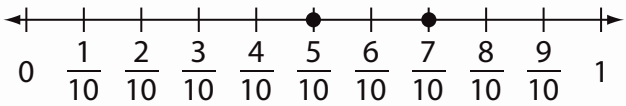
$\frac{7}{8}$ ☐ $\frac{3}{8}$

c) Use <, = or > to make this true.



$\frac{5}{6}$ ☐ $\frac{5}{6}$

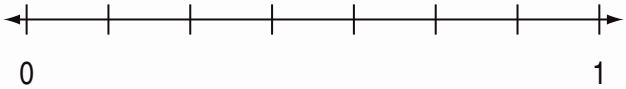
d) Use <, = or > to make this true.



$\frac{7}{10}$ ☐ $\frac{5}{10}$

e) Show with arrows the fractions $\frac{5}{7}$ and $\frac{1}{7}$ on the number line.

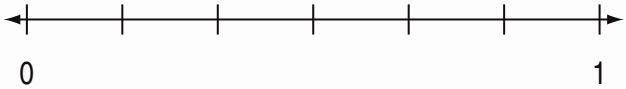
Which fraction is greater?



☐

f) Show with arrows the fractions $\frac{3}{6}$ and $\frac{5}{6}$ on the number line.

Which fraction is greater?



☐

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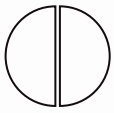
Skill 9.11 Finding the remaining fraction from a whole.

A whole amount is made out of:

two halves	three thirds	four quarters	five fifths	six sixths	seven sevenths	eight eighths	nine ninths
							
$\frac{2}{2}$	$\frac{3}{3}$	$\frac{4}{4}$	$\frac{5}{5}$	$\frac{6}{6}$	$\frac{7}{7}$	$\frac{8}{8}$	$\frac{9}{9}$

- Subtract the fraction from the whole amount.

Q. Two thirds of the students in the class can swim. What fraction of the students cannot swim? ☐

A. *one whole – two thirds* = $\frac{1}{3}$

a) Lou has painted one half of the wall. What fraction of the wall is left to paint? ☐

b) David has finished one half of his test. What fraction of his test is left to do? ☐

c) Loretta has eaten three quarters of the box of chocolates. What fraction of the box of chocolates remains? ☐

d) Matthew blew out five sixths of the candles on his cake. What fraction of the candles are left to blow out? ☐

e) Two fifths of the animals at the zoo are mammals. What fraction of the animals are not mammals? ☐

f) Dad finished unpacking three eighths of the trunk. What fraction of the trunk is left to unpack? ☐

g) Five sevenths of the gym floor has been cleaned. What fraction of the floor is left to clean? ☐

h) Laura learned seven tenths of the song on the piano. What fraction of the song is left to learn? ☐

i) Four fifths of the students in the class are girls. What fraction of the students are boys? ☐

j) If two tenths of the birthday cake was left, what fraction of the cake was eaten? ☐

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Skill 9.12 Reading and illustrating mixed numbers on a number line.

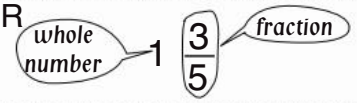
To read a mixed number

- Write the number before the arrow as the whole number.
- Count the spaces between that whole number and the next number.
- Write this number as the bottom number of the fraction.
- Count the spaces from the whole number to the arrow.
- Write this number as the top number of the fraction.

To illustrate a mixed number

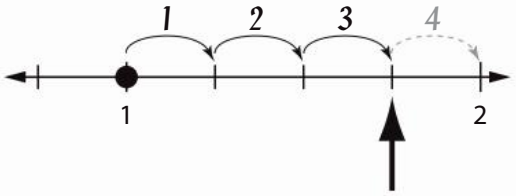
- Check that the number line has the same number of spaces as shown by the bottom number of the fraction.
- Mark the whole number of the mixed number on the line.
- Count the spaces as shown by the top number and draw an arrow.

MIXED NUMBER

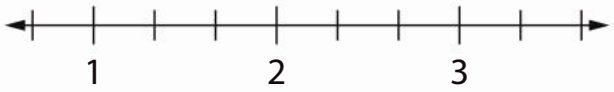


Q. Show with an arrow $1\frac{3}{4}$ on the number line.

A.



a) Show with an arrow $2\frac{1}{3}$ on the number line.

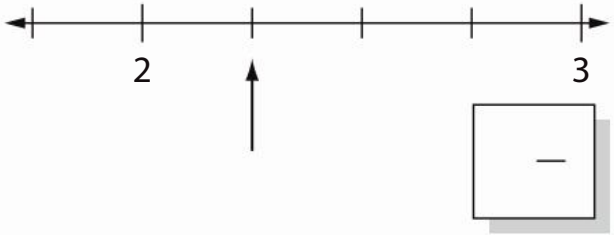


b) Show with an arrow $2\frac{1}{2}$ on the number line.

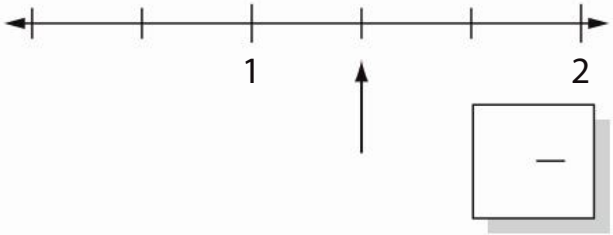
c) Show with an arrow $1\frac{2}{3}$ on the number line.

d) Show with an arrow $2\frac{3}{4}$ on the number line.

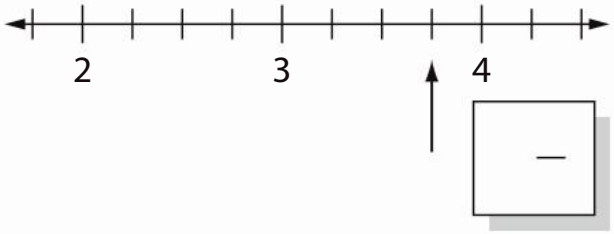
e) What mixed number is shown by the arrow on the number line?



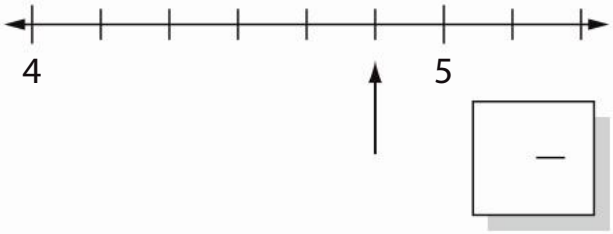
f) What mixed number is shown by the arrow on the number line?



g) What mixed number is shown by the arrow on the number line?



h) What mixed number is shown by the arrow on the number line?



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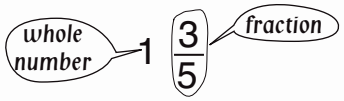
Skill 9.13 Recognising mixed numbers in a diagram.

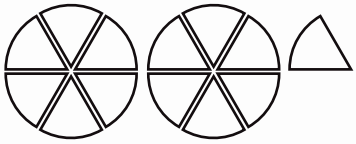
- Count the number of whole circles.
- Write this number first.
- Count the total number of parts in a complete circle.
- Write this number as the bottom number of the fraction.
- Count the number of parts in the incomplete circle.
- Write this number as the top number of the fraction.

MIXED NUMBER



Read as: "One and three fifths"

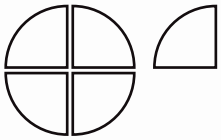
Q. Write a mixed number to match this picture.



A. $2\frac{1}{6}$

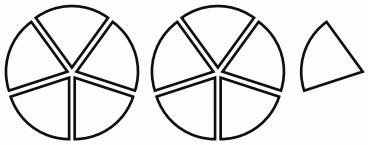
There are 2 whole circles.
There are 6 parts in a circle.
There is 1 part in the incomplete circle.

a) Write a mixed number to match this picture.



_

b) Write a mixed number to match this picture.



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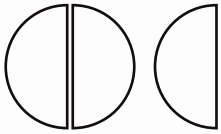
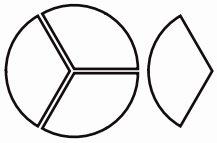
c) Write a mixed number to match this picture.



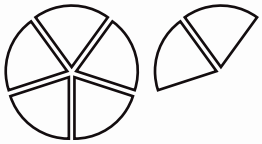
_

d) Write a mixed number to match this picture.



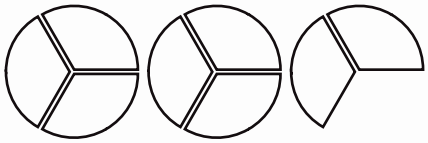
_

e) Write a mixed number to match this picture.



_

f) Write a mixed number to match this picture.

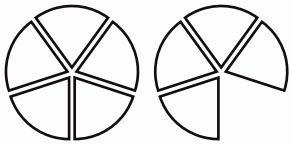


_

g) Write a mixed number to match this picture.

_

h) Write a mixed number to match this picture.



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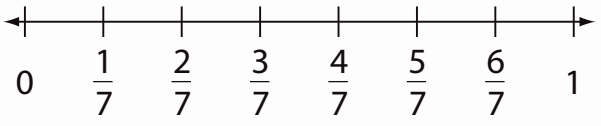
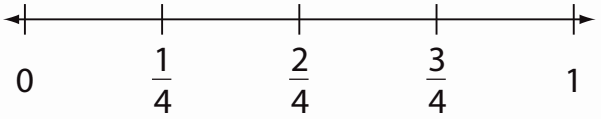
Skill 9.14 Comparing two fractions with the same numerators.

- Compare the position of the fractions on the number line.
- Use < (less than) if the first fraction is to the left of the second fraction on the number line.
- Use > (greater than) if the first fraction is to the right of the second fraction.

Hint: The fraction with the smaller denominator is larger.

Q. Use <, = or > to make this true.

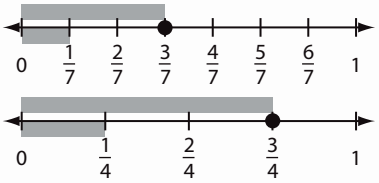




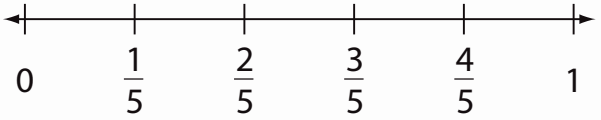
$\frac{3}{7}$ ☐ $\frac{3}{4}$

A. $\frac{3}{7} < \frac{3}{4}$

One seventh is smaller than one fourth.
Therefore 3 sevenths is less than 3 fourths.

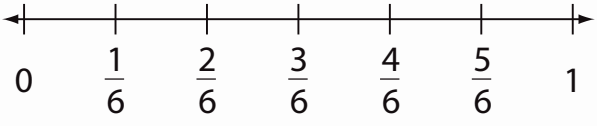


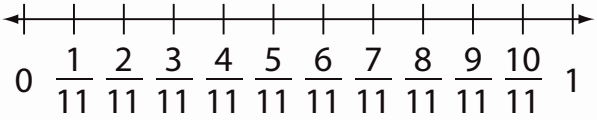
a) Use <, = or > to make this true.



$\frac{2}{3}$ ☐ $\frac{2}{5}$

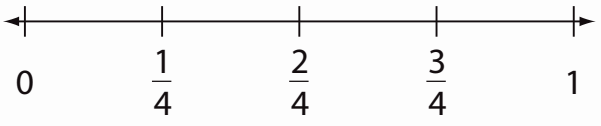
b) Use <, = or > to make this true.

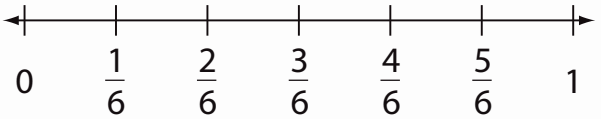




$\frac{5}{6}$ ☐ $\frac{5}{11}$

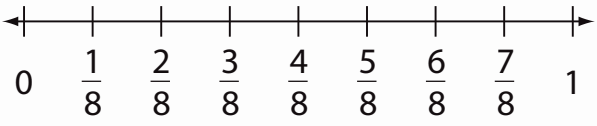
c) Use <, = or > to make this true.

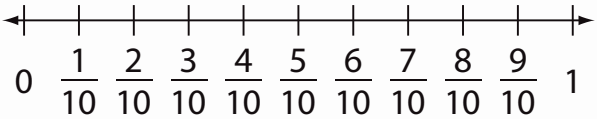




$\frac{2}{6}$ ☐ $\frac{2}{4}$

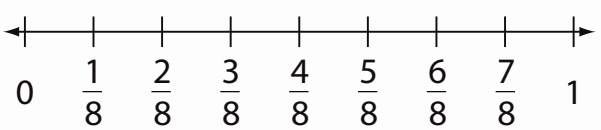
d) Use <, = or > to make this true.

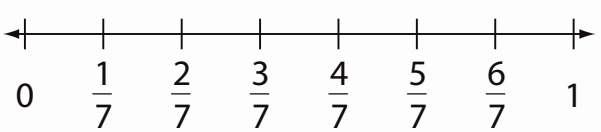




$\frac{3}{8}$ ☐ $\frac{3}{10}$

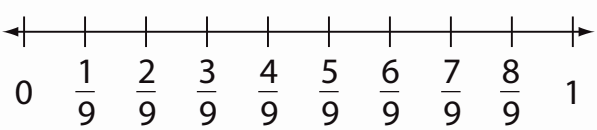
e) Use <, = or > to make this true.

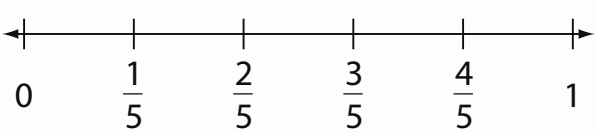




$\frac{3}{8}$ ☐ $\frac{3}{7}$

f) Use <, = or > to make this true.





$\frac{2}{9}$ ☐ $\frac{2}{5}$

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Skill 9.15 Modeling addition and subtraction of fractions with the same denominators, by using parts of a whole.

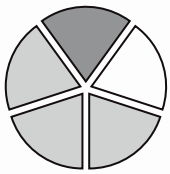
To add two fractions by using parts of a whole

- Colour the fraction bar to represent the second fraction.
- Count the number of shaded parts.
- Write this number as the top number of the result.
- Count the total number of parts.
- Write this number as the bottom number of the result.

To subtract two fractions by using parts of a whole

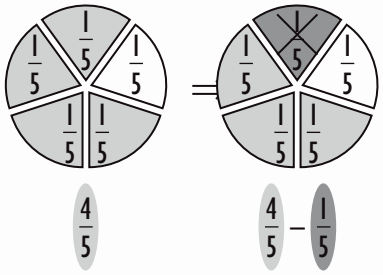
- Count the total number of light shaded parts.
- Write this number as the top number of the result.
- Count the total number of parts.
- Write this number as the bottom number of the result.

Q. Complete the subtraction.



$\frac{4}{5} - \frac{1}{5} = \square$

A. $\frac{4}{5} - \frac{1}{5} = \frac{4}{5} - \frac{1}{5} = \frac{3}{5}$



a) Shade to complete the sum.

$\frac{3}{8} + \frac{2}{8} = \square$

b) Shade to complete the sum.

$\frac{3}{4} + \frac{1}{4} = \square$

c) Shade to complete the sum.

$\frac{1}{6} + \frac{3}{6} = \square$

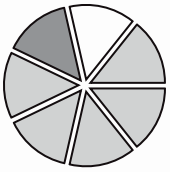
d) Shade to complete the sum.

$\frac{7}{10} + \frac{1}{10} = \square$

e) Shade to complete the sum.

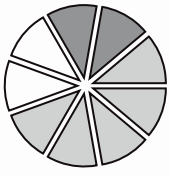
$\frac{5}{8} - \frac{2}{8} = \square$

f) Shade to complete the sum.



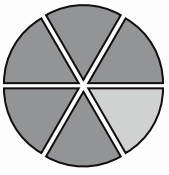
$\frac{6}{7} - \frac{1}{7} = \square$

g) Shade to complete the sum.



$\frac{7}{9} - \frac{2}{9} = \square$

h) Shade to complete the sum.



$\frac{6}{6} - \frac{5}{6} = \square$

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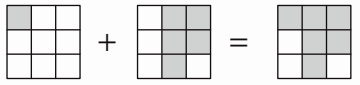
Skill 9.16 Adding and subtracting fractions with the same denominators.

- Add or subtract the numerators (top numbers of the fractions).
- Copy the denominator in the result.

Q. $\frac{1}{9}+\frac{5}{9}=$

A. $\frac{6}{9}$

Add the fractions:
One ninth plus five ninths is six ninths.
Add only the top numbers.



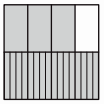
one ninth + five ninths = six ninths

$\frac{1}{9} + \frac{5}{9} = \frac{6}{9}$

a) $\frac{7}{8}-\frac{4}{8}=$ —

b) $\frac{1}{5}+\frac{2}{5}=$ —

c) $\frac{3}{7}+\frac{3}{7}=$ —



d) $\frac{4}{10}+\frac{5}{10}=$ —

e) $\frac{5}{11}+\frac{2}{11}=$ —

f) $\frac{4}{6}+\frac{1}{6}=$ —

g) $\frac{1}{4}+\frac{1}{4}=$ —

h) $\frac{4}{9}+\frac{4}{9}=$ —

i) $\frac{1}{12}+\frac{9}{12}=$ —

j) $\frac{5}{7}-\frac{1}{7}=$ —

k) $\frac{8}{9}-\frac{2}{9}=$ —

l) $\frac{7}{12}-\frac{2}{12}=$ —

m) $\frac{5}{6}-\frac{4}{6}=$ —

n) $\frac{2}{9}+\frac{5}{9}=$ —

o) $\frac{8}{11}+\frac{1}{11}=$ —

p) $\frac{4}{4}-\frac{1}{4}=$ —

q) $\frac{9}{10}-\frac{8}{10}=$ —

r) $\frac{4}{5}-\frac{2}{5}=$ —

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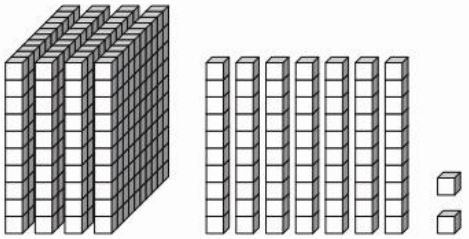
10. [Place Value]

Skill 10.1 Writing numbers illustrated by base 10 blocks (1).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Count the number of the blocks (10 × 10 × 10), flats (10 × 10), longs (1 × 10) and minis (1) to determine the value of each digit in the number.

Q.

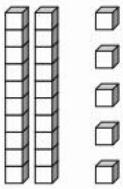


4 hundreds 7 tens 2 ones = ☐

A. ***472***

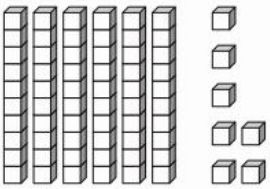
4 hundreds = 400
7 tens = 70
2 ones = 2
400 and 70 and 2 = 472

a)



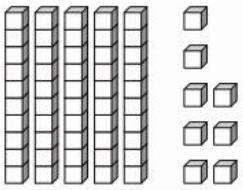
2 tens 5 ones = ☐

b)



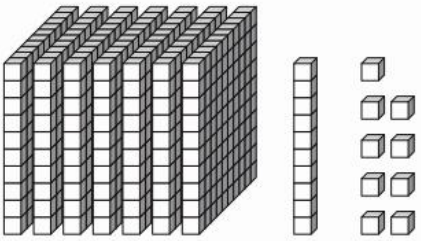
6 tens 7 ones = ☐

c)



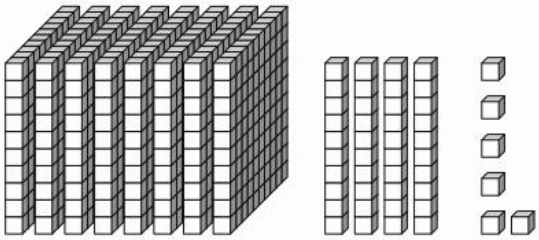
5 tens 8 ones = ☐

d)



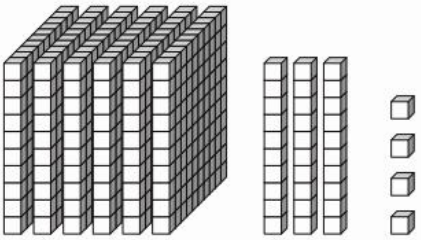
7 hundreds 1 ten 9 ones = ☐

e)



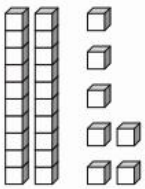
8 hundreds 4 tens 6 ones = ☐

f)



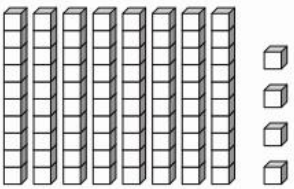
6 hundreds 3 tens 4 ones = ☐

g)



☐ tens ☐ ones = ☐

h)



☐ tens ☐ ones = ☐

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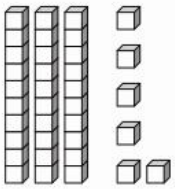
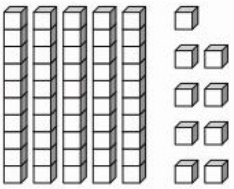
Skill 10.1 Writing numbers illustrated by base 10 blocks (2).

i)



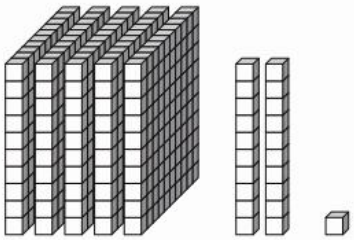
☐ tens ☐ ones = ☐

j)



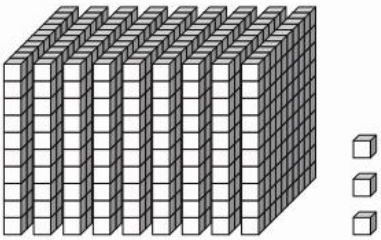
☐ tens ☐ ones = ☐

k)



5 hundreds 2 tens 1 one = ☐

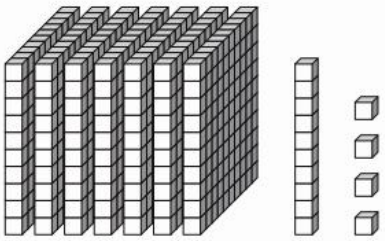
l)



☐ hundreds ☐ tens ☐ ones

= ☐

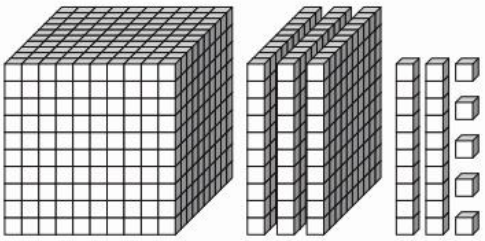
m)



☐ hundreds ☐ ten ☐ ones

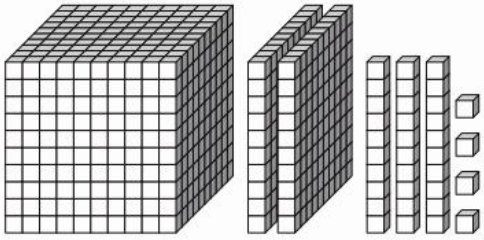
= ☐

n)



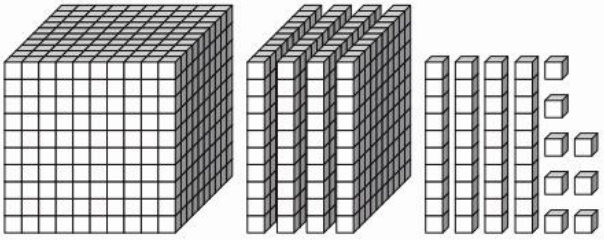
1 thousand 3 hundreds
2 tens 5 ones = ☐

o)



1 thousand 2 hundreds
3 tens 4 ones = ☐

p)



1 thousand 4 hundreds
4 tens 8 ones = ☐

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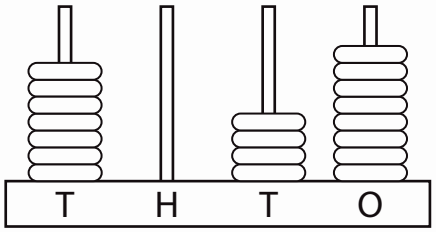
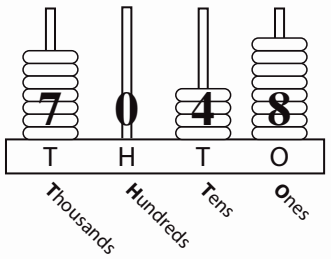
Skill 10.2 Writing numbers illustrated by an abacus showing place values (1).

- Count the discs in each column.
- Write the digits in the appropriate places to form a number.

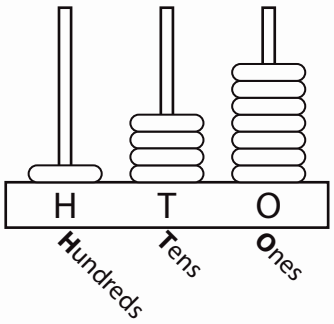
Q. Write the numeral.



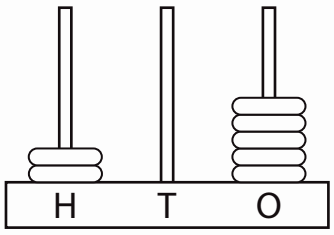
A. ***7048***



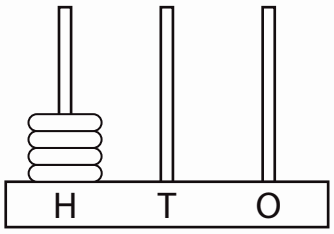
a) Write the numeral.



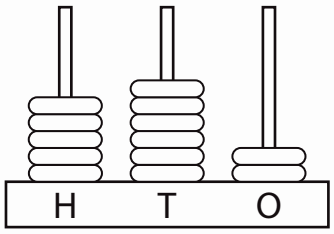
b) Write the numeral.



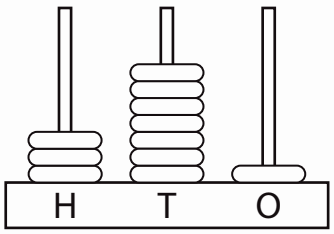
c) Write the numeral.



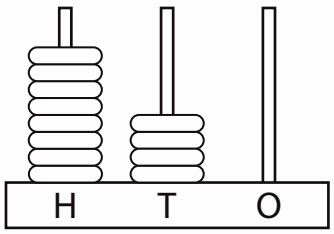
d) Write the numeral.



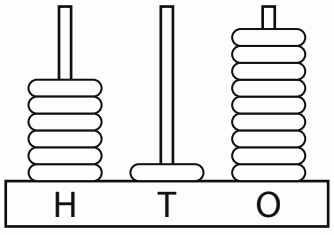
e) Write the numeral.



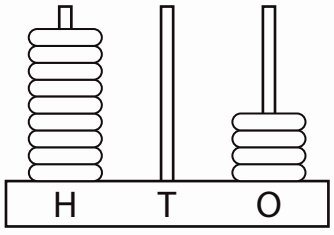
f) Write the numeral.



g) Write the numeral.



h) Write the numeral.



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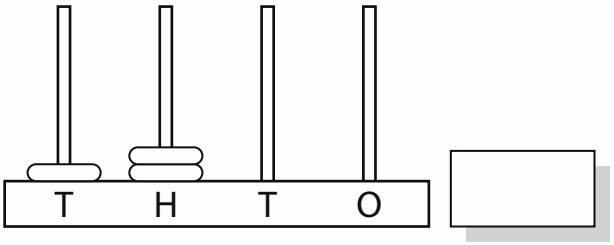
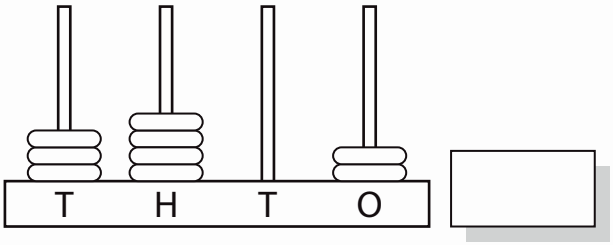
Skill 10.2 Writing numbers illustrated by an abacus showing place values (2).

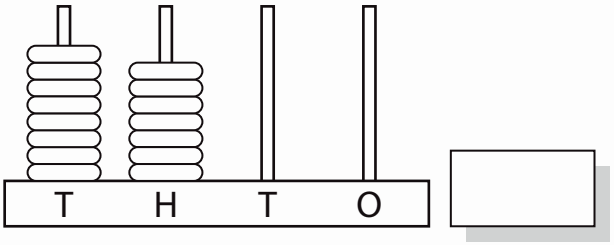
i) Write the numeral.



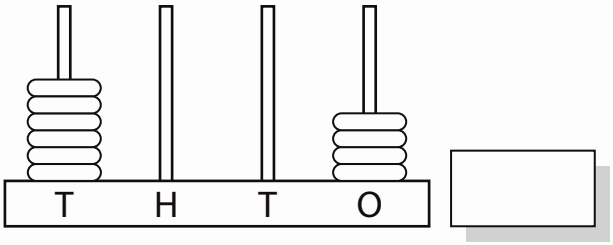
j) Write the numeral.



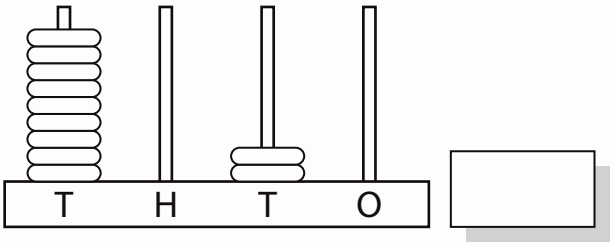
k) Write the numeral.



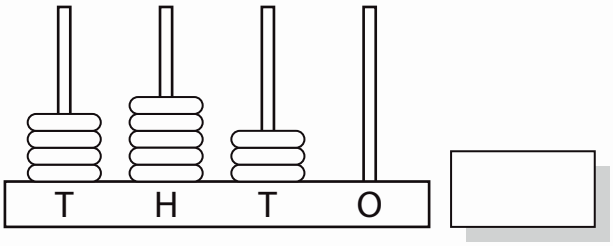
l) Write the numeral.



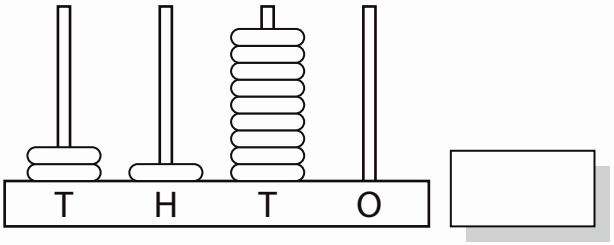
m) Write the numeral.



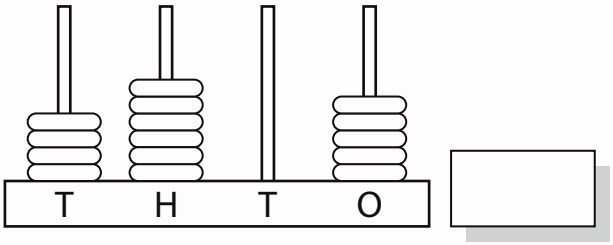
n) Write the numeral.



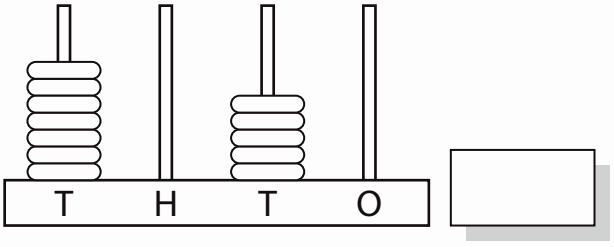
o) Write the numeral.



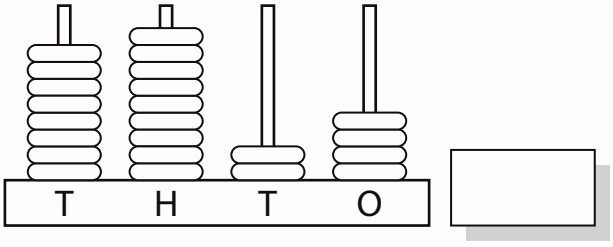
p) Write the numeral.



q) Write the numeral.



r) Write the numeral.



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Skill 10.3 Writing the expansion of a number by identifying the digit in each place.

- Identify the place of each digit.
  Hint: Starting from the right the places are: ones, tens, hundreds and thousands.
- Write the digit to match the place.

Q. Expand 508 by filling in the place value table.

Hundreds	Tens	Ones

A.

Hundreds	Tens	Ones
5	*0*	*8*

a) Expand 45.

☐ tens ☐ ones

b) Expand 51.

☐ tens ☐ one

c) Expand 62.

☐ tens ☐ ones

d) Expand 39.

☐ tens ☐ ones

e) Expand 228.

hundreds tens ones

f) Expand 583.

hundreds tens ones

g) Expand 476.

hundreds tens ones

h) Expand 901.

hundreds tens one

i) Expand 156 by filling in the place value table.

Hundreds	Tens	Ones

j) Expand 749 by filling in the place value table.

Hundreds	Tens	Ones

k) Expand 6815 by filling in the place value table.

Thousands	Hundreds	Tens	Ones

l) Expand 2703 by filling in the place value table.

Thousands	Hundreds	Tens	Ones

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Skill 10.4 Writing numbers by using the place values of each digit.

- Write the digits in order from left to right to form the number.
  Example: 7 thousands + 3 hundreds + 0 tens + 5 ones = 7305

Place			
Thousands	Hundreds	Tens	Ones
7	*3*	*0*	*5*

Q. Write the number:
3 hundreds + 5 tens + 9 ones = ☐

A. ***359***

Place		
Hundreds	Tens	Ones
3	*5*	*9*

a) Write the number:
6 tens + 4 ones ☐

b) Write the number:
5 tens + 2 ones ☐

c) Write the number:
8 tens + 0 ones ☐

d) Write the number:
7 hundreds + 1 ten + 3 ones = ☐

e) Write the number:
4 hundreds + 3 tens + 7 ones = ☐

f) Write the number:
1 hundred + 6 tens + 5 ones = ☐

g) Write the number:
8 hundreds + 0 tens + 2 ones = ☐

h) Write the number:
9 hundreds + 4 tens + 0 ones = ☐

i) Write the number:
4 thousands + 5 hundreds + 8 tens + 5 ones = ☐

j) Write the number:
7 thousands + 8 hundreds + 2 tens + 2 ones = ☐

k) Write the number:
1 thousand + 3 hundreds + 6 tens + 9 ones = ☐

l) Write the number:
5 thousands + 0 hundreds + 6 tens + 7 ones = ☐

m) Write the number:
3 thousand + 1 hundreds + 0 tens + 7 ones = ☐

n) Write the number:
6 thousands + 2 hundreds + 5 tens + 0 ones = ☐

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Skill 10.5 Writing the expansion of a number by adding the values of each digit based on its place.

- Say the number out loud.
  Example: 275 reads "two hundred and seventy-five".

  so 275 = 200 + 70 + 5

  Hint: Consider the exceptions for 2-digit numbers like 15 and 20.
  15 = 10 + 5
  20 = 20 + 0

Place		
Hundreds	Tens	Ones
2	7	5

Value		
200	70	5

Q. Write the value of each digit.

392 = ☐ + 90 + ☐

A. 392 = **300** + 90 + **2**

three hundred and ninety-two

a) Write the value of each digit.

483 = 400 + ☐ + ☐

b) Write the value of each digit.

928 = 900 + ☐ + ☐

c) Write the value of each digit.

614 = 600 + ☐ + ☐

d) Write the value of each digit.

750 = 700 + ☐ + ☐

e) Write the value of each digit.

345 = ☐ + 40 + ☐

f) Write the value of each digit.

826 = ☐ + 20 + ☐

g) Write the value of each digit.

219 = ☐ + 10 + ☐

h) Write the value of each digit.

470 = ☐ + 70 + ☐

i) Write the value of each digit.

6257 = ☐ + 200 + ☐ + 7

j) Write the value of each digit.

3142 = 3000 + ☐ + 40 + ☐

k) Write the value of each digit.

1875 = 1000 + 800 + ☐ + ☐

l) Write the value of each digit.

8390 = 8000 + ☐ + ☐ + 0

m) Write the value of each digit.

5742 = ☐ + 700 + ☐ + ☐

n) Write the value of each digit.

6113 = 6000 + ☐ + ☐ + ☐

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Skill 10.6 Recognising the place value of a digit in a number.

Hint: Starting from the right, the places are: ones, tens, hundreds and thousands.

Place			
Thousands	Hundreds	Tens	Ones
1	*0*	*6*	*9*

Q. In the number 761 which of the digits 7, 6 or 1 lies in the tens place? ☐

A. *6*

Place		
Hundreds	Tens	Ones
7	*6*	*1*

a) In the number 25 which of the digits 2 or 5 lies in the tens place? ☐

b) In the number 63 which of the digits 6 or 3 lies in the ones place? ☐

c) In the number 84 which of the digits 8 or 4 lies in the tens place? ☐

d) In the number 324 which of the digits 3, 2 or 4 lies in the ones place? ☐

e) In the number 562 which of the digits 5, 6 or 2 lies in the tens place? ☐

f) In the number 816 which of the digits 8, 1 or 6 lies in the hundreds place? ☐

g) In the number 359 which of the digits 3, 5 or 9 lies in the hundreds place? ☐

h) In the number 490 which of the digits 4, 9 or 0 lies in the ones place? ☐

i) Circle the hundreds digit in the number:

7 5 1

j) Circle the tens digit in the number:

2 8 4

k) Circle the ones digit in the number:

4 8 3

l) Circle the thousands digit in the number:

5 1 4 9

m) Circle the hundreds digit in the number:

1 8 3 6

n) Circle the thousands digit in the number:

6 2 4 0

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Skill 10.7 Finding the value of a digit in a number.

- If the digit is in the thousands place, add 3 zeros to show its value.
- If the digit is in the hundreds place, add 2 zeros to show its value.
- If the digit is in the tens place, add 1 zero to show its value.
- If the digit is in the ones place, that is its value.

Place			
Thousands	Hundreds	Tens	Ones
3	*4*	*2*	*0*
Value			
3000	*400*	*20*	*0*

Q. In which number does the digit 5 have lesser value?

A) 845 B) 512

A. *A*

845 5 is in the ones place ⇒ value 5
512 5 is in the hundreds place ⇒ value 500
5 < 500

a) What is the value of the 8 in 248?

A) 8
B) 80
C) 800

b) What is the value of the 5 in 659?

A) 5
B) 50
C) 500

c) What is the value of the 4 in 4327?

A) 40
B) 400
C) 4000

d) What is the value of the 6 in 1768?

A) 60
B) 600
C) 6000

e) What is the value of the underlined digit in 3<u>7</u>5?

A) 7
B) 70
C) 700

f) What is the value of the underlined digit in <u>3</u>27?

A) 3
B) 30
C) 300

g) In which number does the digit 1 have lesser value?

A) 461 B) 217

h) In which number does the digit 7 have lesser value?

A) 270 B) 587

i) In which number does the digit 4 have greater value?

A) 748 B) 419

j) In which number does the digit 8 have greater value?

A) 281 B) 958

k) In which number does the digit 5 have lesser value?

A) 2359 B) 1564

l) In which number does the digit 3 have greater value?

A) 1432 B) 5903

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Skill 10.8 Comparing numbers by using <, = or >.

- Compare the value of the digits in the same place, one at a time.
- Work from left to right across each number.
- Use less than (<) when the number on the left is less than the number on the right.
- Use greater than (>) when the number on the left is greater than the number on the right.

Q. 51 is less than (<) 26

True or false?

A. ***false***

5 is greater than 2 so
51 is greater than 26, **not** less than.

a) 35 is less than (<) 76

True or false? ☐

b) 42 is greater than (>) 83

True or false? ☐

c) 8407 = 8470

True or false? ☐

d) 891 is greater than (>) 934

True or false? ☐

e) 8471 is greater than (>) 8714

True or false? ☐

f) 7265 is less than (<) 7256

True or false? ☐

g) Use greater than (>) or less than (<) to make this statement true.

158 ☐ 185

h) Use greater than (>) or less than (<) to make this statement true.

462 ☐ 426

i) Use <, = or > to make this statement true.

273 ☐ 237

j) Use <, = or > to make this statement true.

859 ☐ 895

k) Use <, = or > to make this statement true.

1870 ☐ 187

l) Use <, = or > to make this statement true.

6405 ☐ 6054

m) Use <, = or > to make this statement true.

3290 ☐ 3209

n) Use <, = or > to make this statement true.

2703 ☐ 7200

o) Use <, = or > to make this statement true.

10 200 ☐ 12 010

p) Use <, = or > to make this statement true.

15 445 ☐ 15 545

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Skill 10.9 Making the largest or the smallest number when the digits are given.

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

Writing the largest number
- Write the digits from largest to smallest.

Writing the smallest number
- Write the digits from smallest to largest.

Q. Write the smallest 3-digit number that contains the digits 4, 7 and 3.

A. ***347***

a) Write the largest 2-digit number that contains the digits 3 and 7. 73

b) Write the largest 2-digit number that contains the digits 4 and 9.

c) Write the largest 3-digit number that contains the digits 7, 2 and 4.

d) Write the smallest 3-digit number that contains the digits 8, 3 and 6.

e) Write the smallest 3-digit number that contains the digits 6, 1 and 8.

f) Write the largest 3-digit number that contains the digits 7, 4 and 9.

g) Write the smallest 4-digit number that contains the digits 3, 1, 5 and 2.

h) Write the largest 4-digit number that contains the digits 5, 7, 9 and 3.

i) Write the largest 4-digit number that contains the digits 2, 9, 4 and 7.

j) Write the smallest 4-digit number that contains the digits 6, 1, 5 and 2.

k) Using the digits 3, 9 and 8 write a number between 920 and 960.

l) Using the digits 5, 7 and 2 write a number between 700 and 750.

m) Write the largest 4-digit number less than 7000, that contains the digits 2, 7, 6 and 4.

n) Using the digits 6, 8, 5 and 1 write a number between 5800 and 5850.

o) Write the largest 4-digit number less than 8000, that contains the digits 6, 8, 0 and 5.

p) Write the largest 4-digit number less than 5000, that contains the digits 5, 9, 2 and 4.

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Skill 10.10 Ordering numbers.

Hint: 1-digit numbers are less than 2-digit numbers, which are less than 3-digit numbers, etc.

- Compare the size of the digits in the same place, one at a time.
- Work from left to right across each number.

Q. Place in order from largest to smallest:

189, 93, 4, 11, 240

A. ***240, 189, 93, 11, 4***

3-digit numbers: 189, 240
2 is larger than 1 so 240 is larger than 189.

2-digit numbers: 93, 11
9 is larger than 1 so 93 is larger than 11.

1-digit numbers: 4

a) Place in order from smallest to largest:

31, 13, 3, 11

b) Place in order from largest to smallest:

7, 87, 17, 71, 8

c) Place in order from largest to smallest:

66, 604, 406, 46

d) Place in order from smallest to largest:

209, 90, 29, 92, 200

e) Place in order from largest to smallest:

32, 75, 311, 40, 128

f) Place in order from smallest to largest:

13, 521, 38, 124, 9

g) Place in order from smallest to largest:

546, 456, 54, 56, 465

h) Place in order from largest to smallest:

312, 123, 231, 321

i) Place in order from largest to smallest:

8431, 3148, 4183, 1384

j) Place in order from smallest to largest:

8070, 8870, 4748, 7408

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Skill 10.11 Rounding whole numbers to the nearest 10 or 100.

- Underline the digit to the right of the requested place.
- If this digit is 0, 1, 2, 3 or 4 (< 5) - round down - keep the digit in the requested place the same.
  5, 6, 7, 8 or 9 (≥ 5) - round up - add 1 to the digit in the requested place.
- Keep the number of digits in the answer the same as in the question by using zeros to fill the vacated spaces.

Q. Round 4158 to the nearest ten.

A. ***4160***

4158
The digit to the right of the tens place is 8.
8 ≥ 5 so round up.
Add 1 to the 5 in the tens place to make 6.
Put a zero in the units place.

a) Circle the number closest to 150.

154 151 15 145 155 105

b) Circle the number closest to 300.

310 389 292 305 301 203

c) Which of these numbers is closest to 400?

418 , 490 , 403 , 590 , 508 , 493

d) Which of these numbers is closest to 500?

555 , 495 , 510 , 105 , 550 , 506

e) Round 5319 to the nearest ten.

f) Round 2371 to the nearest ten.

g) Round 6348 to the nearest ten.

h) Round 7015 to the nearest ten.

i) Round 7534 to the nearest hundred.

j) Round 2089 to the nearest hundred.

k) Round 12 321 to the nearest hundred.

l) Round 15 398 to the nearest hundred.

m) Round 10 479 to the nearest hundred.

n) Round 21 450 to the nearest hundred.

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11. [Word Numbers]

Skill 11.1 Expressing word numbers in numerals (1).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Write the digits in order from left to right.
- Write a zero in any place that is left empty between other digits.
  Example: Two hundred and one
  2 0 1

Place		
Hundreds	Tens	Units
2	*0*	*1*

ten	10	eleven	11
twenty	20	twelve	12
thirty	30	thirteen	13
forty	40	fourteen	14
fifty	50	fifteen	15
sixty	60	sixteen	16
seventy	70	seventeen	17
eighty	80	eighteen	18
ninety	90	nineteen	19

Q. Write in numerals:
five thousand, four hundred and two

A. ***5402***

Place			
Thousands	Hundreds	Tens	Units
5	*4*	*0*	*2*

a) Write in numerals:
fifteen

b) Write in numerals:
twenty-seven

c) Write in numerals:
fifty-one

d) Write in numerals:
eighty-four

e) Write in numerals:
ten

f) Write in numerals:
ninety

g) Write in numerals:
six hundred and four

h) Write in numerals:
three hundred and six

i) Write in numerals:
five hundred

j) Write in numerals:
eight hundred

k) Write in numerals:
two hundred and fifteen

l) Write in numerals:
one hundred and ninety-seven

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m) Write in numerals:
seven hundred and eighteen

n) Write in numerals:
nine hundred and sixty-seven

o) Write in numerals:
nine thousand

p) Write in numerals:
eight thousand

q) Write in numerals:
one thousand and five

r) Write in numerals:
two thousand and one

s) Write in numerals:
one thousand and fifty-two

t) Write in numerals:
one thousand, three hundred

u) Write in numerals:
eight thousand and twenty-four

v) Write in numerals:
two thousand, three hundred and eight

w) Write in numerals:
four thousand, five hundred and forty-seven

x) Write in numerals:
seven thousand, eight hundred and six

y) Write in numerals:
twenty-five thousand

z) Write in numerals:
sixty-three thousand

A) Write in numerals:
ten thousand and ninety-six

B) Write in numerals:
fifty-one thousand and thirteen

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Skill 11.1 Expressing word numbers in numerals (3).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

C) Write in numerals:

forty thousand, eight hundred

D) Write in numerals:

fifteen thousand, three hundred and thirty

E) Write in numerals:

twenty-one thousand, three hundred and fifteen

F) Write in numerals:

fourteen thousand, six hundred and seventy-five

G) Write in numerals:

nine hundred thousand

H) Write in numerals:

six hundred thousand

I) Write in numerals:

one hundred and five thousand

J) Write in numerals:

eight hundred and thirty thousand

K) Write in numerals:

three hundred and ninety thousand

L) Write in numerals:

six hundred thousand, four hundred and twenty

M) Write in numerals:

seven million

N) Write in numerals:

four million

O) Write in numerals:

two million, nine hundred thousand

P) Write in numerals:

five million, one hundred thousand

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Skill 11.2 Writing 2-digit numbers in words.

- Write the word for the value of the tens.
- Write the word for the value of the units.

Example:

tens value

74 = seventy-four

units value

10 ten	11 eleven
20 twenty	12 twelve
30 thirty	13 thirteen
40 forty	14 fourteen
50 fifty	15 fifteen
60 sixty	16 sixteen
70 seventy	17 seventeen
80 eighty	18 eighteen
90 ninety	19 nineteen

Q. Write the number 26 in words.

A. ***twenty-six***

Place	
Tens	Units
2	*6*

Value	
20	*6*

a) Write the number 11 in words.

b) Write the number 15 in words.

c) Write the number 19 in words.

d) Write the number 38 in words.

e) Write the number 64 in words.

f) Write the number 59 in words.

g) Write the number 81 in words.

h) Write the number 93 in words.

i) Write the number 20 in words.

j) Write the number 70 in words.

k) Write the number 44 in words.

l) Write the number 18 in words.

m) Write the number 50 in words.

n) Write the number 30 in words.

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Skill 11.3 Writing 3-digit numbers in words.

- Write the word for the value of the hundreds.
- Always write 'hundred' not hundreds.
- Write the word 'and' if other values follow.
- Then write the word for the value of the tens.
- Write the word for the value of the units.

Hint: Consider the exceptions for 2-digit numbers like 15 (fifteen) and 20 (twenty).

Q. Write the number 491 in words.

A. ***four hundred and ninety-one***

Place		
Hundreds	Tens	Units
4	*9*	*1*

Value		
400	*90*	*1*

a) Write the number 400 in words.

b) Write the number 101 in words.

c) Write the number 207 in words.

d) Write the number 600 in words.

e) Write the number 161 in words.

f) Write the number 708 in words.

g) Write the number 312 in words.

h) Write the number 850 in words.

i) Write the number 514 in words.

j) Write the number 470 in words.

k) Write the number 980 in words.

l) Write the number 266 in words.

m) Write the number 306 in words.

n) Write the number 220 in words.

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Skill 11.4 Writing 4-digit numbers in words.

- Write the word for the value of the thousands.
- Always write 'thousand' not thousands.
- Write the word 'and' if there are no hundreds.
- Write the word for the value of the hundreds.
- Always write 'hundred' not hundreds.
- Write the word 'and' if other values follow.
- Then write the word for the value of the tens.
- Write the word for the value of the units.

Hint: Consider the exceptions for 2-digit numbers like 15 (fifteen) and 20 (twenty).

Q. Write the number 9007 in words.

A. ***nine thousand and seven***

Place			
Thousands	Hundreds	Tens	Units
9	*0*	*0*	*7*

Value			
9000	*0*	*0*	*7*

Skip the value of the hundreds.
Skip the value of the tens.

a) Write the number 5000 in words.

b) Write the number 7002 in words.

c) Write the number 2060 in words.

d) Write the number 8000 in words.

e) Write the number 1026 in words.

f) Write the number 3010 in words.

g) Write the number 2043 in words.

h) Write the number 4035 in words.

i) Write the number 5003 in words.

j) Write the number 9200 in words.

k) Write the number 6080 in words.

l) Write the number 1700 in words.

m) Write the number 1040 in words.

n) Write the number 8600 in words.

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Skill 11.5 Writing 5-digit numbers in words.

- Group and write the first two digits from the left as a 2-digit number.
- Always write 'thousand' not thousands.
- Write the word 'and' if there are no hundreds.
- Write the word for the value of the hundreds.
- Always write 'hundred' not hundreds.
- Write the word 'and' if other values follow.
- Then write the word for the value of the tens.
- Write the word for the value of the units.

Hint: Consider the exceptions for 2-digit numbers like 15 (fifteen) and 20 (twenty).

Q. Write the number 82 000 in words.

A. ***eighty-two thousand***

Place				
Ten Thousands	Thousands	Hundreds	Tens	Units
8	*2*	*0*	*0*	*0*

Value				
80 000	*2000*	*0*	*0*	*0*

Skip the values of the hundreds, tens and units.

a) Write the number 26 000 in words.

b) Write the number 54 000 in words.

c) Write the number 97 000 in words.

d) Write the number 40 200 in words.

e) Write the number 50 600 in words.

f) Write the number 39 000 in words.

g) Write the number 84 200 in words.

h) Write the number 20 050 in words.

i) Write the number 12 600 in words.

j) Write the number 10 070 in words.

k) Write the number 50 030 in words.

l) Write the number 10 400 in words.

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12. [Money]

Skill 12.1 Recognising coins and values of coins.

- If the coin is golden it will be worth 1 dollar or 2 dollars. These values are written on the coins.
- If the coin is silver, it will be worth 20 cents or 50 cents. These values are written on the coins.
- If the coin is copper, it will be worth 10 cents. This value is written on the coin.

100 cents

200 cents

Q. Circle the coin with the greatest value.

A.

$1
= 100 cents

10 cents

20 cents

a) What is the value of the coin?

cents

b) What is the value of the coin?

dollars

c) What is the value of the coin?

cents

d) What is the value of the coin?

cents

e) Circle the coin with the least value.

f) Circle the coin with the greatest value.

g) Circle the coin with the least value.

h) Circle the coin with the greatest value.

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Skill 12.2 Recognising banknotes and values of banknotes (1).

- Find the number written on the note.
  This number is the worth of the note in dollars.

Q. Which note has the greatest value?

A)

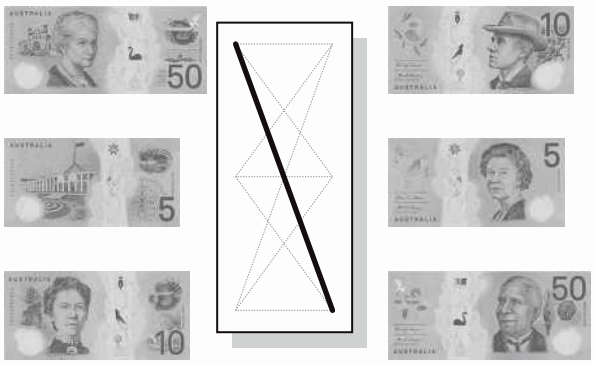
B)

C)

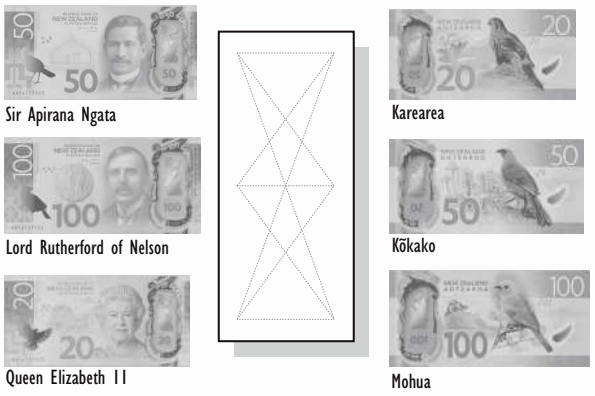
A. ***A***

A) $100
B) $5
C) $50
So A has the greatest value.

a) Match the fronts to the backs of the notes.



b) Match the fronts to the backs of the notes.



c) What is the value of the note?

dollars

d) What is the value of the note?

dollars

e) What is the value of the note?

dollars

f) What is the value of the note?

dollars

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g) Which note has the greatest value?

A)

B)

C)

h) Which note has the smallest value?

A)

B)

C)

i) Which note has the smallest value?

A)

B)

C)

j) Which note has the greatest value?

A)

B)

C)

k) Which note has the greatest value?

A)

B)

C)

l) Which note has the smallest value?

A)

B)

C)

m) Which note has the smallest value?

A)

B)

C)

n) Which note has the greatest value?

A)

B)

C)

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Skill 12.3 Adding values of coins and banknotes (1).

- Add the cents first.
  Hint: 100 cents = $1

Q. How much money in total?

A. *50¢ + 20¢ + 10¢ =* ***80¢***

a) How much money in total?

10¢ + 10¢ + 50¢ = ¢

b) How much money in total?

= ¢

c) How much money in total?

= ¢

d) How much money in total?

= $

e) How much money in total?

= $

f) How much money in total?

= $

g) How much money in total?

= $

h) How much money in total?

= $

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i) How much money in total?

..... = $ ____

j) How much money in total?

..... = $ ____

k) How much money in total?

..... = $ ____

l) How much money in total?

..... = $ ____

m) How much money in total?

..... = $ ____

n) How much money in total?

..... = $ ____

o) How much money in total?

..... = $ ____

p) How much money in total?

..... = $ ____

q) How much money in total?

..... = $ ____

r) How much money in total?

..... = $ ____

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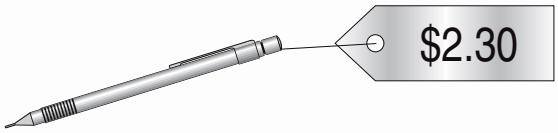
Skill 12.4 Counting collections of coins and banknotes to make up a value shown on a price tag (1).

- Circle the whole dollars first, if needed.
- Using trial and error, try to find how to make up the cent amount.

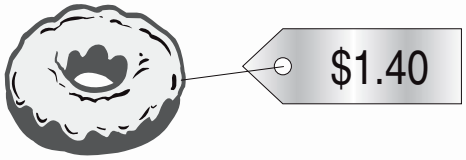
Q. Circle the exact money needed to buy the pencil.



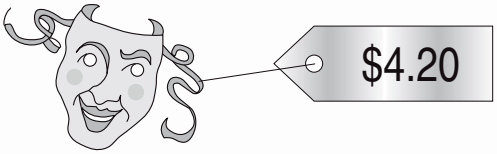
A.

Circle the $2 first.
To make 30¢ you need a 20¢ and a 10¢.

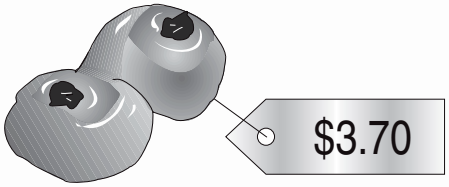
a) Circle the exact money needed to buy the iced donut.



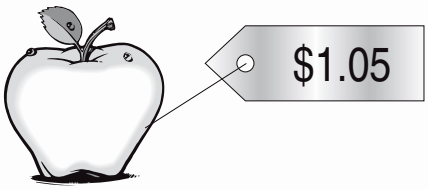
b) Circle the exact money needed to buy the mask.



c) Circle the exact money needed to buy the coffee scroll.



d) Circle the exact money needed to buy the apple.



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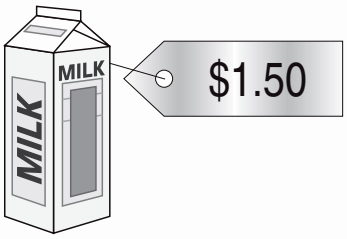
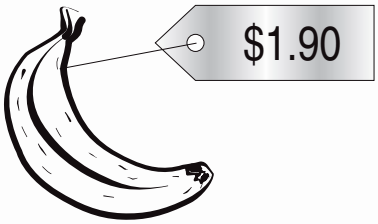
Skill 12.4 Counting collections of coins and banknotes to make up a value shown on a price tag (2).

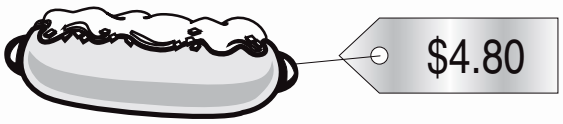
e) Circle the exact money needed to buy a litre of milk.



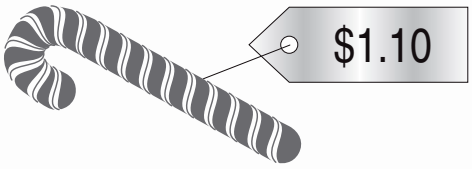
f) Circle the exact money needed to buy the banana.



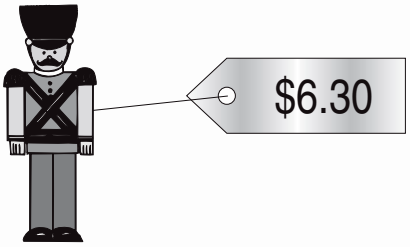
g) Circle the exact money needed to buy the hotdog.



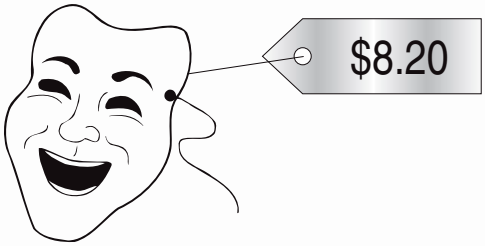
h) Circle the exact money needed to buy the candy cane.



i) Circle the exact money needed to buy the toy soldier.



j) Circle the exact money needed to buy the mask.



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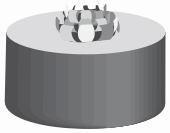
Skill 12.5 Comparing prices (1).

- Find which item is less than the amount you have.

Q. You have $25. Which item can you afford to buy?

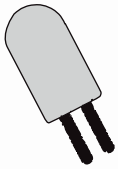
A) B) C) 

$25.50	$25.99	$24.99

A. *C*

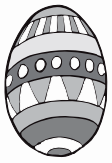
A) $25.50 is more than $25.
B) $25.99 is more than $25.
C) Only $24.99 is less than $25.

a) You have 60¢. Which item can you afford to buy?

A) B)  C)

55¢	65¢	70¢

b) You have 90¢. Which item can you afford to buy?

A)  B) C)

99¢	85¢	95¢

c) You have $3. Which item can you afford to buy?

A) B) C)

$3.50	$3.05	$2.50

d) You have $20. Which item can you afford to buy?

A) B) C)

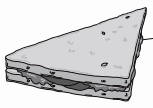
$20.20	$18.20	$22.20

e) You have $65. Which item can you afford to buy?

A)
B)
C)

$69.95
$70
$60.95

f) You have $5. Which item can you afford to buy?

A)
B) 
C)

$5.50
$4.50
$6.99

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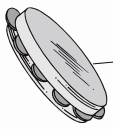
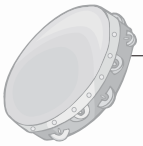
g) You have $20. Which item can you afford to buy?

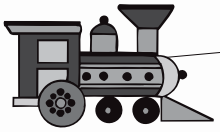
A)  $25

B) $18.50

C)  $30

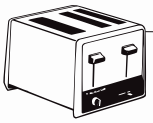
h) You have $30. Which item can you afford to buy?

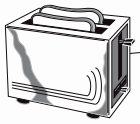
A) $28.75

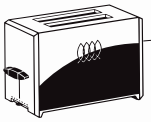
B)  $30.50

C) $32.25

i) You have $25. Which item can you afford to buy?

A)  $35.95

B)  $28.95

C)  $22.95

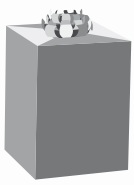
j) You have $35. Which item can you afford to buy?

A) $35.50

B) $30.50

C) $36

k) You have $20. Which item can you afford to buy?

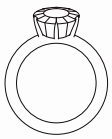
A)  $19.75

B) $20.05

C) $22

l) You have $500. Which item can you afford to buy?

A) $450

B)  $850

C) $750

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Skill 12.6 Counting collections of identical coins to make up a cost.

- Count by the smaller amount until you reach the larger amount.

OR

- Divide the smaller amount into the larger amount.

Q. How many 10¢ coins make $1.00?

A. ***10***

10, 20, 30, 40, 50, 60, 70, 80, 90, 100

10 times

OR

$100 \div 10 = 10$

a) How many 10¢ coins make 20¢?

2

b) How many 10¢ coins make 40¢?

c) How many $2 coins make $18?

d) How many $2 coins make $30?

e) How many 20¢ coins make $1.00?

f) How many 10¢ coins make 70¢?

g) How many 10¢ coins make $2.00?

h) How many 50¢ coins make $2.00?

i) How many 20¢ coins make $2.00?

j) How many 50¢ coins make $10.00?

k) How many 10¢ coins make $1.30?

l) How many 20¢ coins make $1.60?

m) How many 50¢ coins make $5.00?

n) How many 20¢ coins make $3.00?

o) How many 50¢ coins make $15.00?

p) How many 20¢ coins make $5.00?

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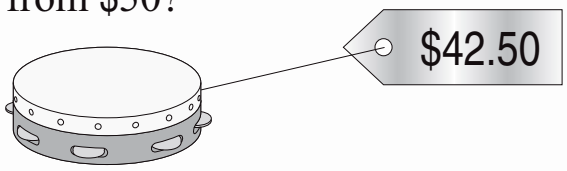
Skill 12.7 Calculating change.

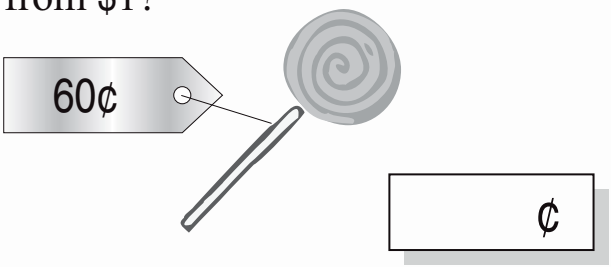
- Count on from the price to make whole dollars or workable amounts like 50¢.
- Add the amounts that you count on.

Q. How much change would you get from $50?

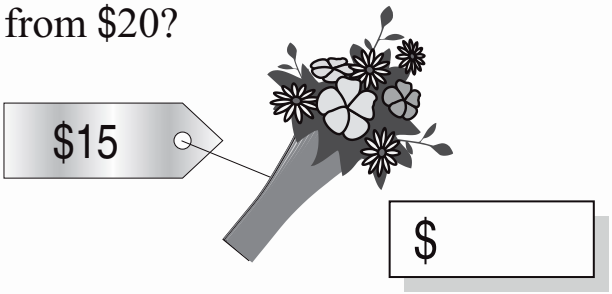


A. *$42.50 + 50¢ = $43* Count on.
$43 + $7 = $50
50¢ + $7 = ***$7.50*** Add the amounts that you count on.

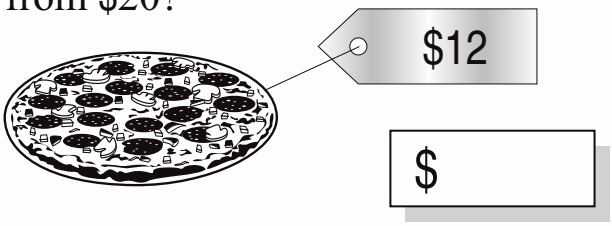
a) How much change would you get from $1?



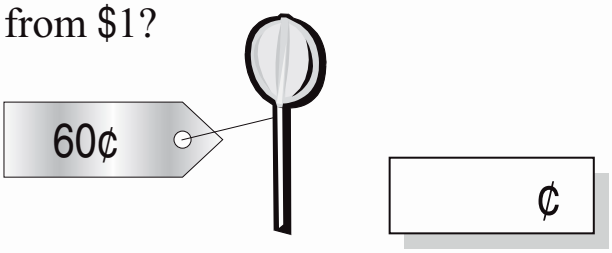
b) How much change would you get from $20?



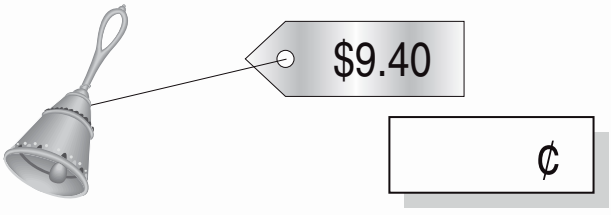
c) How much change would you get from $20?



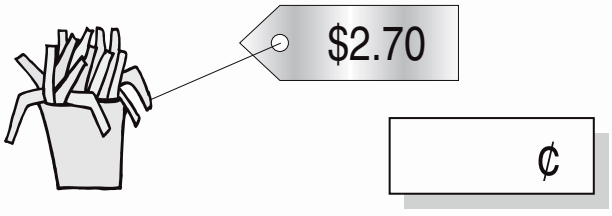
d) How much change would you get from $1?



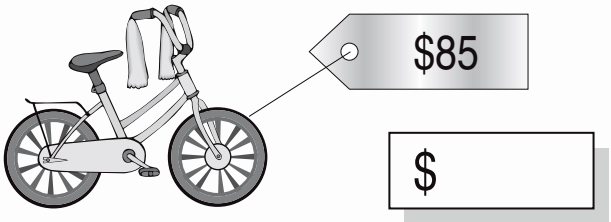
e) How much change would you get from $10?



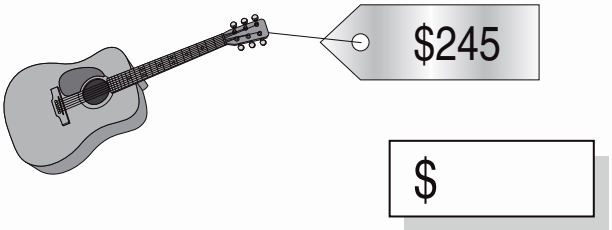
f) How much change would you get from $3?



g) How much change would you get from $100?



h) How much change would you get from $300?



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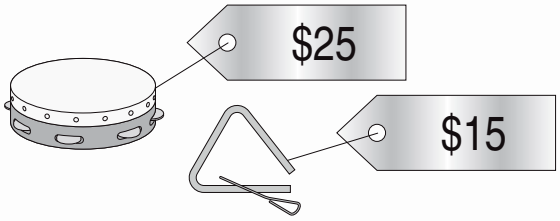
Skill 12.8 Adding two or more prices in dollars and cents (1).

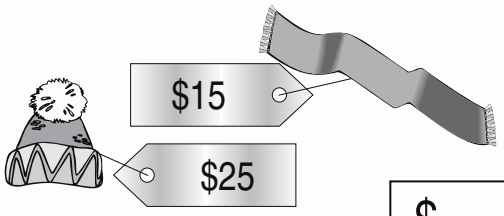
- Add the dollars.
- Add the cents.
- If you have lots of the same coin, add these separately.
  Example: 2 one-dollar coins = $1 + $1 = $2
  3 fifty-cent coins = 50¢ + 50¢ + 50¢ = $1.50

Q. Calculate the cost of 2 triangles and 1 tambourine.



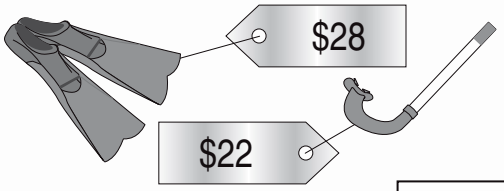
A. *$15 + $15 + $25*
= *$30 + $25*
= ***$55***

a) Calculate the cost of a hat and a scarf.



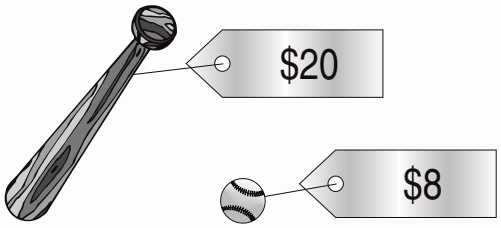
$

b) Calculate the cost of 1 pair of flippers and 1 snorkel.



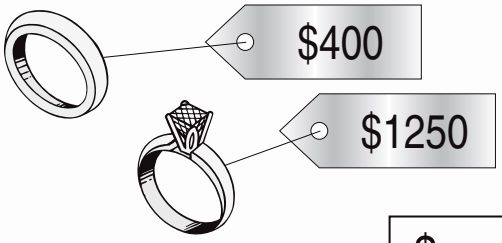
$

c) Calculate the cost of 2 balls and 1 bat.



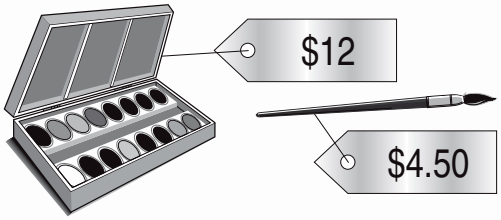
$8 + $8 + $20 = $

d) Calculate the cost of a wedding ring and an engagement ring.



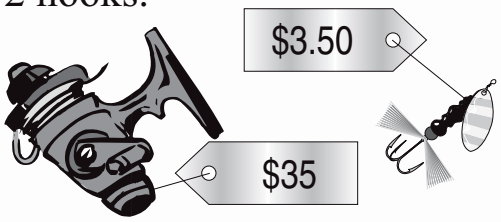
$

e) Calculate the cost of 1 water colour set and 2 art brushes.



= $

f) Calculate the cost of 1 reel and 2 hooks.



= $

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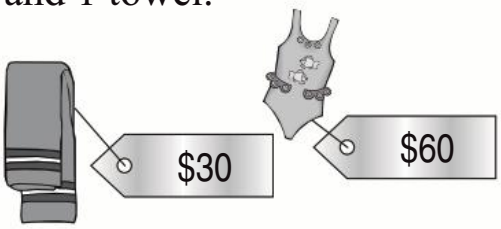
g) Calculate the cost of 2 muffins and 1 pie.

..... = $ ____

h) Calculate the cost of 2 swimsuits and 1 towel.

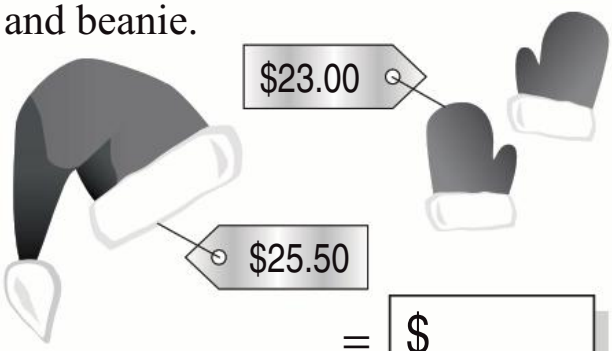


..... = $ ____

i) Calculate the cost of 4 avocados and 2 watermelons.

..... = $ ____

j) Calculate the cost of the gloves and beanie.



..... = $ ____

k) What is the total value of:

4 ten-cent coins and
1 fifty-cent coins?

..... = ____ ¢

l) What is the total value of:

4 twenty-cent coins and
2 fifty-cent coins?

..... = ____ ¢

m) What is the total value of:

2 ten-cent coins and
4 fifty-cent coins?

..... = ____ ¢

n) What is the total value of:

3 ten-cent coins and
2 twenty-cent coins?

..... = ____ ¢

o) What is the total value of:

2 twenty-cent coins and
1 fifty-cent coin?

..... = ____ ¢

p) What is the total value of:

3 fifty-cent coins and
6 ten-cent coins?

..... = $ ____

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q) What is the total value of:

1 ten-cent coin,
1 twenty-cent coin and
1 fifty-cent coin?

..... = ¢

r) What is the total value of:

1 one-dollar coin,
1 fifty-cent coin and
3 twenty-cent coins?

..... = $

s) What is the total value of:

1 one-dollar coin,
2 two-dollar coins and
3 fifty-cent coins?

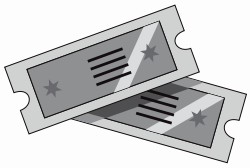
..... = $

t) What is the total value of:

5 five-cent coins,
5 ten-cent coins and
2 twenty-cent coins?

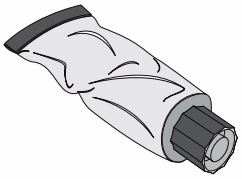
..... = ¢

u) Calculate the cost of 2 tickets to the football at $30.90 each.



..... = $

v) Calculate the cost of 2 tubes of paint at $4.30 each.

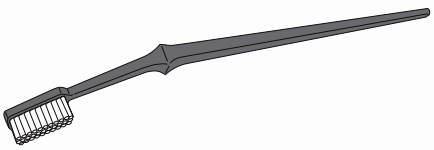


..... = $

w) Calculate the cost of 2 paint brushes at $2.10 each.

..... = $

x) Calculate the cost of 2 toothbrushes at $4.60 each.



..... = $

y) Calculate the total cost of:

sushi at $3.50
a drink at $2.50
a toy at $1.00

..... = $

z) Calculate the total cost of:

a pie at $4.50
a cake at $3.50
a drink at $2.50

..... = $

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13. [Number Patterns]

Skill 13.1 Completing number patterns by adding the same number (1). Orange 1 2 3 3 4 4 Rose 1 1 2 2 3 3 4 4

- Find the amount added to get from one number to the next number.
- Add that amount to the last number of the pattern.

Q. 3 , 9 , 15 , 21 , 27 , __ , __

A. 3 , 9 , 15 , 21 , 27 , ***33*** , ***39***
+6 +6 +6 +6 +6 +6

a) 4 , 7 , 10 , 13 , 16 , __ , __
+3 +3 +3 +3 +3 +3

b) 4 , 6 , 8 , 10 , 12 , __ , __

c) 70 , 80 , 90 , 100 , __ , __

d) 25 , 35 , 45 , 55 , __ , __

e) 12 , 14 , 16 , 18 , 20 , __ , __

f) 24 , 28 , 32 , 36 , 40 , __ , __

g) 7 , 10 , 13 , 16 , 19 , __ , __

h) 1 , 7 , 13 , 19 , 25 , __ , __

i) 19 , 25 , 31 , 37 , __ , __

j) 37 , 40 , 43 , 46 , __ , __

k) 48 , 53 , 58 , 63 , 68 , __ , __

l) 16 , 21 , 26 , 31 , 36 , __ , __

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Skill 13.1 Completing number patterns by adding the same number (2).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

m) 26 , 30 , 34 , 38 , 42 , __ , __

n) 35 , 37 , 39 , 41 , 43 , __ , __

o) 38 , 44 , 50 , 56 , __ , __

p) 3 , 5 , 7 , 9 , 11 , __ , __

q) 7 , 17 , 27 , 37 , 47 , __ , __

r) 4 , 12 , 20 , 28 , 36 , __ , __

s) 7 , 15 , 23 , 31 , 39 , __ , __

t) 2 , 12 , 22 , 32 , 42 , __ , __

u) 54 , 56 , 58 , 60 , __ , __

v) 40 , 48 , 56 , 64 , __ , __

w) 9 , 12 , 15 , 18 , 21 , __ , __

x) 27 , 31 , 35 , 39 , 43 , __ , __

y) 13 , 18 , 23 , 28 , 33 , __ , __

z) 42 , 46 , 50 , 54 , 58 , __ , __

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Skill 13.2 Completing number patterns by subtracting the same number (1).

- Find the amount taken away to get from one number to the next number.
- Subtract that amount from the last number of the pattern.

Q. 48 , 44 , 40 , 36 , __ , __

A. *48 , 44 , 40 , 36 , **32** , **28***

−4 −4 −4 −4 −4

a) 40 , 35 , 30 , 25 , __ , __

−5 −5 −5 −5 −5

b) 58 , 48 , 38 , 28 , __ , __

c) 24 , 22 , 20 , 18 , 16 , __ , __

d) 57 , 55 , 53 , 51 , 49 , __ , __

e) 48 , 45 , 42 , 39 , 36 , __ , __

f) 32 , 29 , 26 , 23 , 20 , __ , __

g) 46 , 40 , 34 , 28 , 22 , __ , __

h) 59 , 55 , 51 , 47 , 43 , __ , __

i) 25 , 23 , 21 , 19 , 17 , __ , __

j) 39 , 33 , 27 , 21 , 15 , __ , __

k) 63 , 57 , 51 , 45 , 39 , __ , __

l) 48 , 42 , 36 , 30 , 24 , __ , __

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Skill 13.2 Completing number patterns by subtracting the same number (2).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

m)

58 , 50 , 42 , 34 , 26 , __ , __

....

n)

75 , 65 , 55 , 45 , 35 , __ , __

....

o)

49 , 42 , 35 , 28 , 21 , __ , __

....

p)

44 , 39 , 34 , 29 , 24 , __ , __

....

q)

54 , 46 , 38 , 30 , 22 , __ , __

....

r)

83 , 73 , 63 , 53 , 43 , __ , __

....

s)

60 , 53 , 46 , 39 , 32 , __ , __

....

t)

47 , 42 , 37 , 32 , 27 , __ , __

....

u)

44 , 37 , 30 , 23 , 16 , __ , __

....

v)

49 , 41 , 33 , 25 , 17 , __ , __

....

w)

80 , 72 , 64 , 56 , 48 , __ , __

....

x)

60 , 51 , 42 , 33 , 24 , __ , __

....

y)

45 , 38 , 31 , 24 , 17 , __ , __

....

z)

50 , 42 , 34 , 26 , 18 , __ , __

....

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Skill 13.3 Completing number patterns by adding changing numbers.

- Find the amounts added to get from one number to the next number.
- Check all the way through the pattern.
- Add these amounts in order to the last number of the pattern.

Q. 2 , 4 , 7 , 9 , 12 , __ , __

A. 2 , 4 , 7 , 9 , 12 , ***14*** , ***17***
+2 +3 +2 +3 +2 +3

a) 1 , 5 , 7 , 11 , 13 , __ , __
+4 +2 +4 +2 +4 +2

b) 4 , 5 , 10 , 11 , 16 , __ , __

c) 2 , 6 , 7 , 11 , 12 , __ , __

d) 4 , 7 , 11 , 14 , 18 , __ , __

e) 1 , 5 , 10 , 14 , 19 , __ , __

f) 3 , 6 , 8 , 11 , 13 , __ , __

g) 2 , 4 , 8 , 10 , 14 , __ , __

h) 4 , 7 , 12 , 15 , 20 , __ , __

i) 8 , 9 , 12 , 13 , 16 , __ , __

j) 2 , 4 , 9 , 11 , 16 , __ , __

k) 6 , 8 , 14 , 16 , 22 , __ , __

l) 5 , 8 , 9 , 12 , 13 , __ , __

m) 4 , 8 , 11 , 15 , 18 , __ , __

n) 2 , 7 , 8 , 13 , 14 , __ , __

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Skill 13.4 Completing number patterns by subtracting changing numbers.

- Find the amounts taken away to get from one number to the next number.
- Check all the way through the pattern.
- Subtract these amounts in order from the last number of the pattern.

Q.
22 , 20 , 16 , 14 , 10 , __ , __

A. 22 , 20 , 16 , 14 , 10 , ***8*** , ***4***
−2 −4 −2 −4 −2 −4

a)
22 , 20 , 15 , 13 , 8 , __ , __
−2 −5 −2 −5 −2 −5

b)
17 , 14 , 13 , 10 , 9 , __ , __

c)
21 , 20 , 15 , 14 , 9 , __ , __

d)
27 , 24 , 20 , 17 , 13 , __ , __

e)
28 , 25 , 20 , 17 , 12 , __ , __

f)
25 , 21 , 18 , 14 , 11 , __ , __

g)
29 , 25 , 20 , 16 , 11 , __ , __

h)
33 , 30 , 28 , 25 , 23 , __ , __

i)
26 , 22 , 20 , 16 , 14 , __ , __

j)
25 , 23 , 18 , 16 , 11 , __ , __

k)
19 , 17 , 16 , 14 , 13 , __ , __

l)
30 , 28 , 22 , 20 , 14 , __ , __

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Skill 13.5 Completing number patterns by multiplying by the same number.

- Find the amount you multiply by to get from one number to the next number.
- Multiply the last number of the pattern by that amount.

Q. 4 , 8 , 16 , 32 , ☐

A. 4 , 8 , 16 , 32 , ***64***

×2 ×2 ×2 ×2

a) 15 , 30 , 60 , 120 , ☐

×2 ×2 ×2 ×2

b) 2 , 6 , 18 , 54 , ☐

....

c) 30 , 60 , 120 , 240 , ☐

....

d) 5 , 15 , 45 , 135 , ☐

....

e) 4 , 12 , 36 , 108 , ☐

....

f) 9 , 27 , 81 , 243 , ☐

....

g) 10 , 30 , 90 , 270 , ☐

....

h) 20 , 60 , 180 , 540 , ☐

....

i) 1 , 5 , 25 , 125 , ☐

....

j) 1 , 10 , 100 , 1000 , ☐

....

k) 5 , 50 , 500 , 5000 , ☐

....

l) 10 , 50 , 250 , 1250 , ☐

....

m) 4 , 20 , 100 , 500 , ☐

....

n) 7 , 70 , 700 , 7000 , ☐

....

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14. [Time]

Skill 14.1 Naming and ordering the days of the week.

- Say the days of the week in order.

  Example: If today is Wednesday, consider the days yesterday and tomorrow. Yesterday was Tuesday, tomorrow will be Thursday.

Sunday
Monday
Tuesday ⟷ yesterday
Wednesday ⟷ today
Thursday ⟷ tomorrow
Friday
Saturday

Q. Which day comes after Thursday? **A.** ***Friday***

a) Which day comes before Wednesday?

b) Which day comes after Saturday?

c) Which day comes before Tuesday?

d) Which day comes after Wednesday?

e) Today is Tuesday. What day is tomorrow?

f) Yesterday was Tuesday. What day is today?

g) Tomorrow is Saturday. What day was it yesterday?

h) Tomorrow is Sunday. What day was it yesterday?

i) A week ago was Friday. What day is it today?

j) Which day is the last day of the weekend?

k) Today is Thursday. What day is tomorrow?

l) Yesterday was Sunday. What day is tomorrow?

m) Today is Saturday. What day was it a week ago?

n) Yesterday was Tuesday. What day is tomorrow?

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Q. Which day of the week is Christmas Day in 2021?

DECEMBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

A. ***Saturday***

DECEMBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

Saturday

a) How many Tuesdays in September 2021?

SEPTEMBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

b) How many weekends in October 2021?

OCTOBER - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

c) Mark this birthday with a cross.

Barack Obama - 4th of August

AUGUST - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

d) How many week days in June 2021?

JUNE - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

e) Which day of the week is the first day of February 2021?

FEBRUARY - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

f) What is the date that Ramadan begins in 2021?

APRIL - 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13 Ramadan	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

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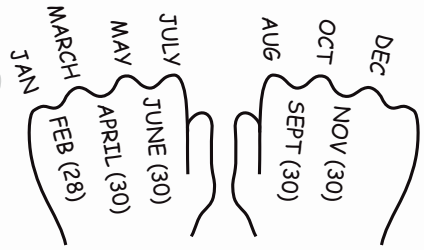
Skill 14.3 Naming and ordering months and seasons of the year.

- Say the months of the year in order.
- Say the seasons in order.
- Match the seasons to the months of the year.
- Learn the rhyme: *"30 days have September, April, June and November, all the rest have 31 except for February alone which has 28 days clear and 29 in each leap year."*

OR Use your knuckles!

Months with 31 days are on the knuckles.



Summer	January
	February
Autumn	March
	April
	May
Winter	June
	July
	August
Spring	September
	October
	November
Summer	December

Q. Which month comes before March?

A. ***February***

a) What is the 2nd month of the year?

b) How many days in May?

c) Which month comes after August?

d) In Wellington, which season is in March, April and May?

e) How many days in February, in a leap year?

f) How many days in April?

g) It is January in Brisbane. Which season are we in?

h) In Auckland, which season is in September, October and November?

i) My birthday is on the 22/11/1958. In which month was I born?

j) Which month comes before August?

k) How many days in October?

l) How many months in the year?

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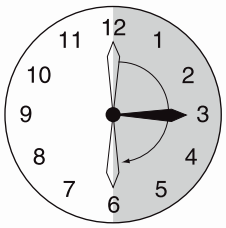
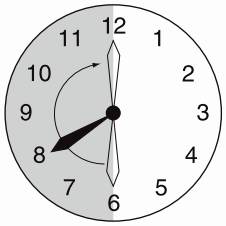
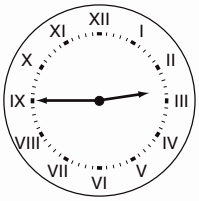
Skill 14.4 Telling the time by using 'past' and 'to' (1).

- Check the position of the big hand.
  Hint: Apart from pointing to 12 or 6 the big hand on a clock can point either right or left.

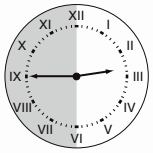
PAST - right between 12 (o'clock) and 6 (half past)	TO - left between 6 (half past) and 12 (o'clock)
 past	to 

Q. Use 'to' or 'past' to complete the time.



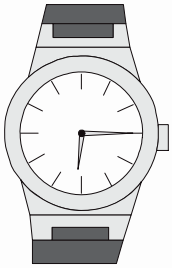
A quarter ☐ three.

A. ***to***

to 

The big hand is on the IX (9).
This is on the 'to' side of the clock.

a) Use 'to' or 'past' to complete the time.

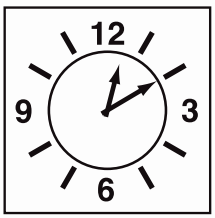


A quarter ☐ six.

b) Use 'to' or 'past' to complete the time.

Twenty-five ☐ six.

c) Use 'to' or 'past' to complete the time.



Ten ☐ twelve.

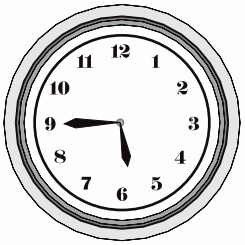
d) Use 'to' or 'past' to complete the time.

Five ☐ ten.

e) Use 'to' or 'past' to complete the time.

Five ☐ five.

f) Use 'to' or 'past' to complete the time.



A quarter ☐ six.

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g) Use 'to' or 'past' to complete the time.

Twenty ☐ two.

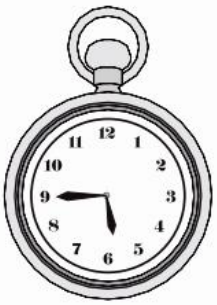
h) Use 'to' or 'past' to complete the time.

Twenty-five ☐ nine.

i) Use 'to' or 'past' to complete the time.

Five ☐ five.

j) Use 'to' or 'past' to complete the time.



A quarter ☐ six.

k) Use 'to' or 'past' to complete the time.

Ten ☐ nine.

l) Use 'to' or 'past' to complete the time.

Twenty ☐ four.

m) Use 'to' or 'past' to complete the time.

A quarter ☐ twelve.

n) Use 'to' or 'past' to complete the time.

Ten ☐ seven.

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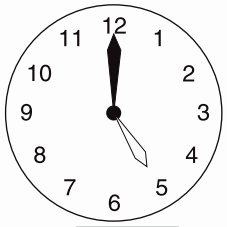
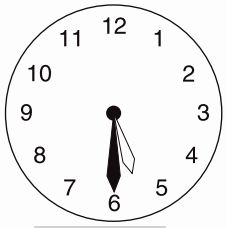
Skill 14.5 Showing the time on an analogue clock (1).

To show o'clock:
- Draw the big (minute) hand pointing to the **12**.
- Draw the little (hour) hand pointing to hour given.



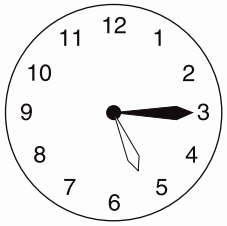
5 o'clock

To show half past:
- Draw the big hand pointing to the **6**.
- Draw the little hand pointing half way past the given hour and toward the next hour.



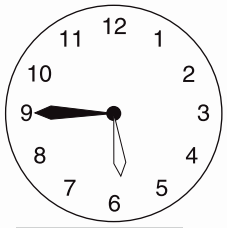
half past 5

To show a quarter past:
- Draw the big hand pointing to the **3**.
- Draw the little hand pointing one quarter of the way past the given hour and toward the next hour.



a quarter past 5

To show a quarter to:
- Draw the big hand pointing to the **9**.
- Draw the little hand pointing one quarter of the way backwards from the given hour and three quarters of the way from the hour before.



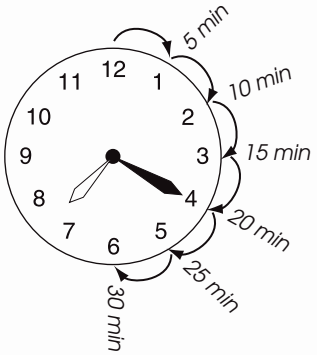
a quarter to 6

To show other times:
- Count by 5s starting from 12.
- Draw the big hand pointing to the number that tells the minutes.

Showing 'past'
- Draw the little hand pointing past the number that tells the hour.

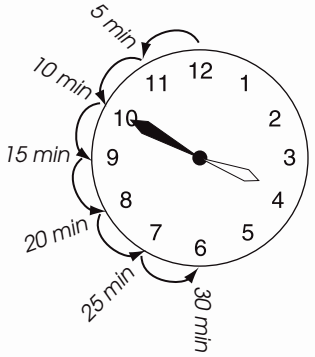
Showing 'to'
- Draw the little hand pointing before the number that tells the hour.

Count clockwise (↷) if the time is PAST



"Twenty minutes past seven"

Count anticlockwise (↶) if the time is TO



"Ten minutes to four"

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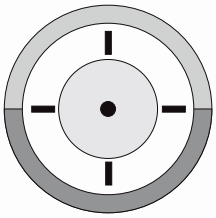
Q. Draw hands on the clock to show half past nine.

A.

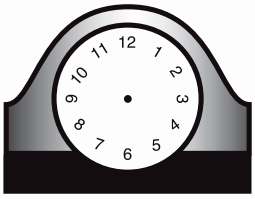
Half past means the big hand is on the 6.

Past nine means the little hand is past the nine and halfway to the 10.

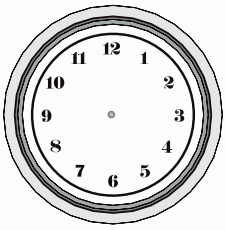
a) Draw hands on the clock to show three o'clock.



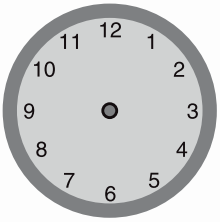
b) Draw hands on the clock to show a quarter to three.



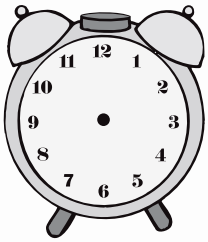
c) Draw hands on the clock to show a quarter past eight.



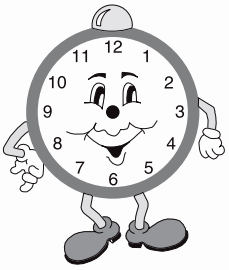
d) Draw hands on the clock to show twenty-five past two.



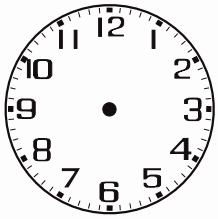
e) Draw hands on the clock to show ten past eleven.



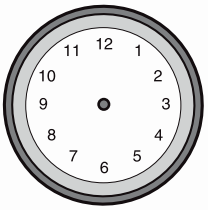
f) Draw hands on the clock to show twenty to seven.



g) Draw hands on the clock to show twenty-five to one.



h) Draw hands on the clock to show five past six.



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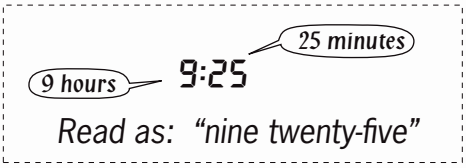
Skill 14.6 Matching digital and analogue time (1).

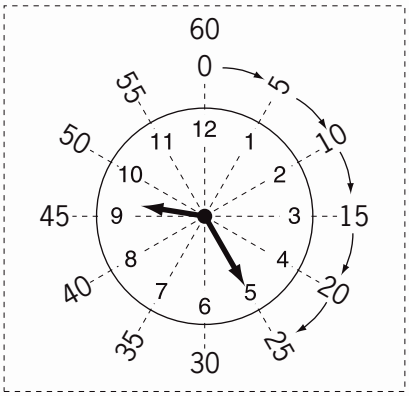
Digital time



Analogue to Digital time

- Draw the time on a clock face (if needed).
- Write the last hour that the little hand has past.
- Start counting the minutes by 5s from 12.
- Write the number of minutes that the big hand is on.

Example: Twenty-five past nine becomes "9:25"



Digital to Analogue time

Minutes from 00 to 30:

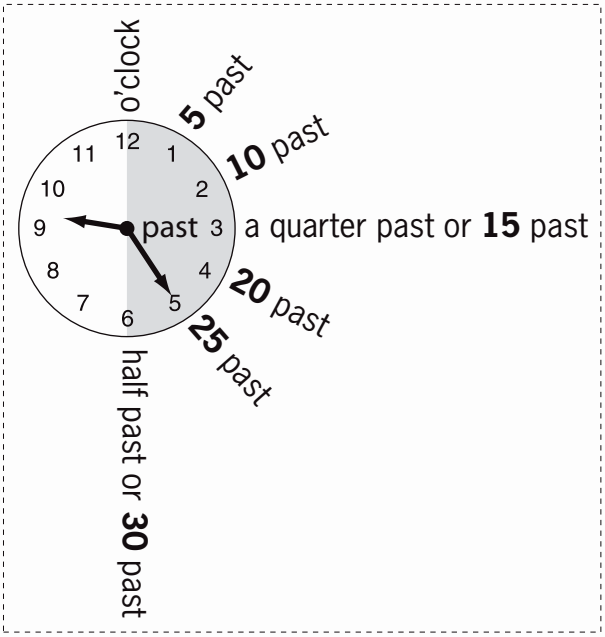
- Check the number of minutes on the digital clock.

00	o'clock
15	a quarter past
30	half past
Less than 30	just read the minutes

- Write the minutes past the hour.

Example: 9:25

Minutes 25
Hours 9
"Twenty-five minutes past nine"



Minutes from 30 to 60:

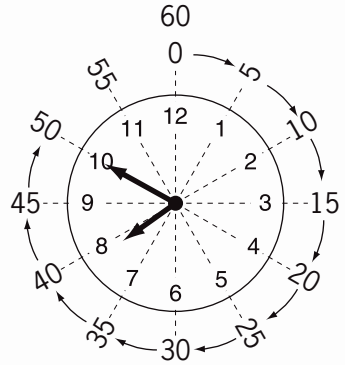
- Check the number of minutes on the digital clock.

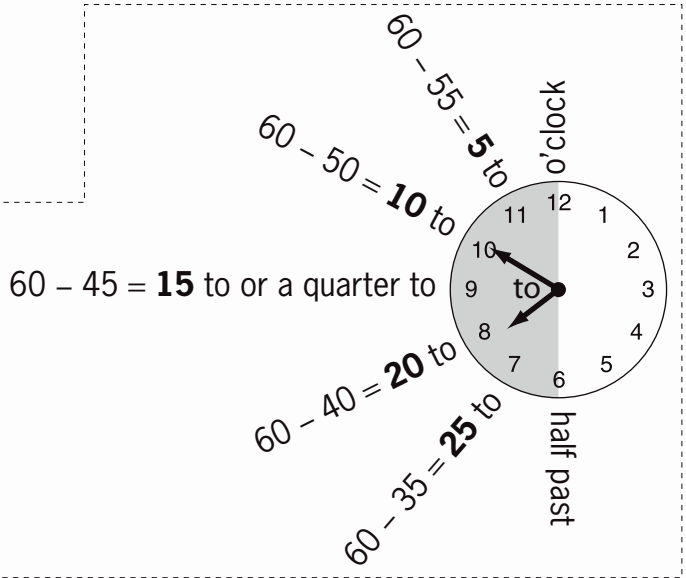
45	a quarter to
Greater than 30	subtract the number from 60

- Write the resulting minutes to the next hour.

Example: 7:50

Minutes 60 – 50 = 10
Hours The next hour is 8.
"Ten minutes to eight"





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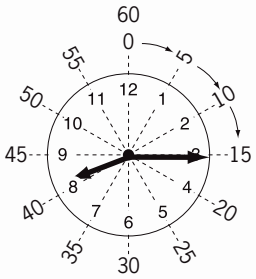
Q. Which time is a quarter past eight?

A) 8:15
B) 8:50
C) 8:30

A. ***A***

A quarter past means 15 minutes after 8.
So the time is 8:15



a) Which time is twenty past two?

A) 2:20
B) 2:00
C) 2:15

b) Which time is half past ten?

A) 10:30
B) 10:45
C) 10:00

c) Which time is a quarter to four?

A) 4:45
B) 3:45
C) 5:45

d) Which time is five to seven?

A) 7:05
B) 6:55
C) 6:05

e) Which time is nineteen minutes past three?

A) 3:41
B) 3:15
C) 3:19

f) Which time is twenty to nine?

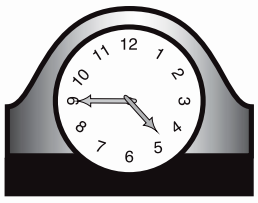
A) 8:40
B) 8:20
C) 9:20

g) Which time is shown on the clock?

A) 1:15
B) 3:00
C) 12:15

h) Which time is shown on the clock?

A) 9:25
B) 5:45
C) 4:45



i) Which time is shown on the clock?

A) 6:10
B) 5:10
C) 5:50

j) Which time is shown on the clock?

A) 11:35
B) 6:55
C) 11:25

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k) Show five o'clock in the morning in digital time.

:

l) Show half past eleven in the morning in digital time.

:

m) Show twenty-five past eleven in the morning in digital time.

:

n) Show a quarter past twelve in the afternoon in digital time.

:

o) Show twenty minutes past ten in the morning in digital time.

:

p) Show five minutes past four in the morning in digital time.

:

q) Show eleven minutes to eleven in the morning in digital time.

:

r) Show thirteen minutes to five in the afternoon in digital time.

:

s) 8:20 am means twenty past eight in the morning.

True or false?

t) 6:45 am means a quarter to six in the morning.

True or false?

u) 11:15 am means a quarter past one in the morning.

True or false?

v) 4:20 am means twenty to five in the morning.

True or false?

w) 7:23 am means twenty-three past seven in the morning.

True or false?

x) 7:55 am means five to eight in the morning.

True or false?

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Skill 14.7 Expressing digital and analogue time in words (1).

To write the digital time in words

- Read the time out loud.
- Write what you have said.

  Example: 12:15

  "Twelve fifteen"

To write the analogue time in words

- Write:

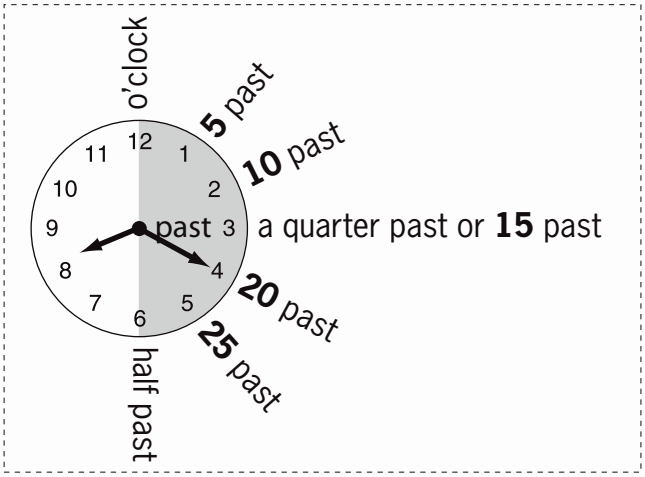
"five o'clock"

"a quarter past eight"

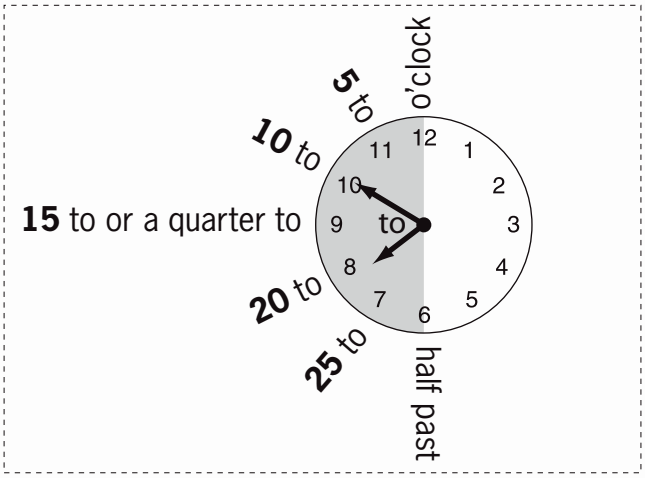
"half past ten"

"a quarter to two"

- Write **"past"** the hour if the big hand is in the right half of the clock.
  Example: *"twenty past eight"*.



- Write **"to"** the next hour if the big hand is in the left half of the clock.
  Example: *"ten to eight"*.
  Hints: According to the big hand a jump to the next number shows 5 more minutes. According to the little hand a jump to the next number shows 1 more hour.



Q. Write the time 7:30 in words.

A. ***seven thirty***
Or
half past seven

a) Write the time 10:00 in words.

b) Write the time 9:15 in words.

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c) Write the time 3:24 in words.

d) Write the time 1:25 in words.

e) Write the time 4:45 in words.

f) Write the time 6:45 in words.

g) Write the time shown in words.

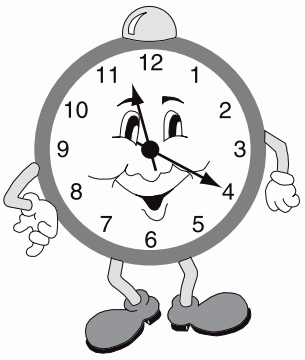
h) Write the time shown in words.

i) Write the time shown in words.

j) Write the time shown in words.

k) Write the time shown in words.

l) Write the time shown in words.



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Skill 14.7 Expressing digital and analogue time in words (3).

m) Write the time 7:20 in words.

n) Write the time 8:10 in words.

o) Write the time 5:40 in words.

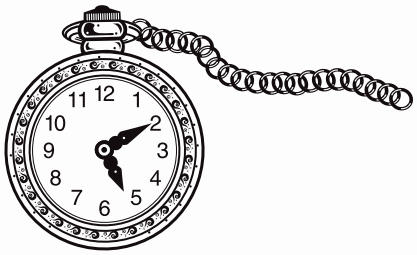
p) Write the time 4:52 in words.

q) Write the time 11:55 in words.

r) Write the time 5:20 in words.

s) Write the time shown in words.

t) Write the time shown in words.



u) Write the time shown in words.

v) Write the time shown in words.

w) Write the time 2:35 in words.

x) Write the time 12:18 in words.

y) Write the time shown in words.

z) Write the time shown in words.

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Q. Gus takes the 8:00 am bus to Canberra. What time does he get there?

greyhound Australia

Sydney	6:00 am	8:00 am	3:30 pm
Canberra	9:15 am	11:45 am	8:00 pm

A. ***11:45 am***

Find 8:00 am

Check across from Canberra

a) Charlie does jazz class. What time does he finish?

SYDANCEY COMPANY

Time	Style	
9:30 am - 11:00 am	Ballet	Beginner
11:00 am - 12:30 pm	Contemporary	Intermediate
6:30 pm - 8:00 pm	Stretch	Open
6:30 pm - 8:00 pm	Jazz	Beginner
6:30 pm - 8:00 pm	Lyrical	Intermediate
6:30 pm - 8:00 pm	Ballet	Intermediate

b) How long should it take to travel between North Sydney and Wynyard stations?

NSW Transport CityRail

North Shore Line	
North Sydney	10:57 am
Milsons Point	10:59 am
Wynyard	11:03 am

minutes

c) Which show begins at 5:03 pm?

ABC 1

Sydney TV Guide

4:16 pm	Pat and Stan
4:28 pm	Oggy and the Cockroaches
4:40 pm	Pink Panther and Pals
5:03 pm	Bolts & Blip
5:30 pm	Black Hole High

d) How long does it take to get from Melbourne to Bordertown?

greyhound Australia

Melbourne	**8:15 pm**
Bordertown	2:15 am
Adelaide	**6:00 am**

hours

e) For how many days is Luna Park closed in February?

Luna Park

February - 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

Opening hours

- 7pm - 11pm
- 11am - 6pm
- 11am -11pm
- 11am - 8pm
- Closed

days

f) Which ferry number would take the shortest time?

IrishFerries.com

Dublin (Ireland) - Holyhead (Britain)

Ferry	Departure	Arrival
1	8:05 am	11:30 am
2	8:45 pm	10:45 pm
3	2:00 pm	4:30 pm
4	8:55 pm	12:20 am

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Skill 14.9 Converting between units of time (1).

Hint: *Conversion Facts*

1 year = 12 months = 52 weeks = 365 days
1 fortnight = 2 weeks
1 week = 7 days
1 day = 24 hours
1 hour = 60 minutes
1 minute = 60 seconds

Q. Write in minutes.

420 seconds = minutes

A. *420 seconds =* ***7 minutes***

To convert seconds to minutes, make groups of 60.

a) Write in weeks.

7 days = weeks

b) Write in seconds.

2 minutes = seconds

c) Write in days.

4 weeks = days

d) Write in hours.

180 minutes = hours

e) Write in hours.

2 days = hours

f) Write in seconds.

3 minutes = seconds

g) Circle the longest time.

30 minutes
3 hours 300 seconds

h) Circle the shortest time.

3 hours
150 minutes 1 day

i) Circle the longest time.

1 year
300 days 60 weeks

j) Circle the shortest time.

30 hours
1 week 1 day

k) Circle the shortest time.

300 seconds
6 minutes 2 days

l) Circle the longest time.

3 weeks
14 days 1 month

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m) Write in seconds.

10 minutes = seconds

n) Write in seconds.

5 minutes = seconds

o) Write in minutes.

360 seconds = minutes

p) Write in hours.

600 minutes = hours

q) Write in minutes.

6 hours = minutes

r) Write in minutes.

12 hours = minutes

s) Write in weeks.

14 days = weeks

t) Write in weeks.

280 days = weeks

u) Write in days.

5 weeks = days

v) Write in days.

240 hours = days

w) Write in hours.

3 days = hours

x) Write in days.

10 weeks = days

y) Circle the longest time.

2 days

40 hours 200 minutes

z) Circle the shortest time.

4 weeks

1 month 21 days

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15. [Measuring]

Skill 15.1 Comparing objects based on their length (1).

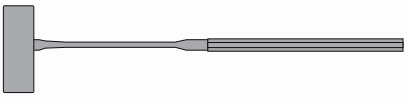
Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- Use a piece of string, paper or a ruler to check the length of each object if possible.
- Use your best estimate.
- Compare the given lengths.

Q. Which bat is the longest?

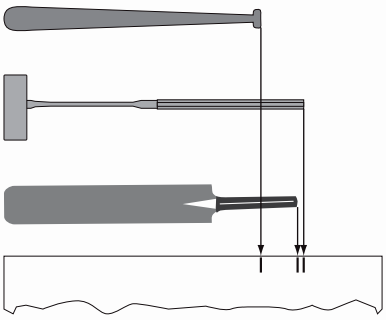
A)

B)



C)

A. ***B***

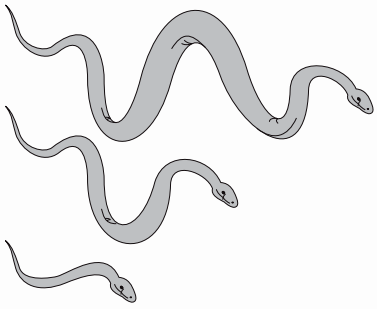


a) Which snake is the longest?

A)

B)

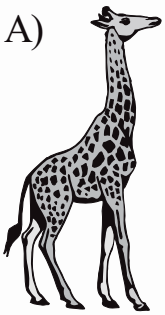
C)



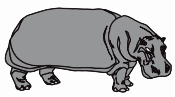
b) Circle the cat with the shortest tail.

c) Which animal is the tallest?

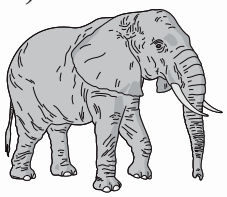
A)



B)



C)



d) Which landmark is the shortest?

A)

B)

C)

e) Which animal is the tallest?

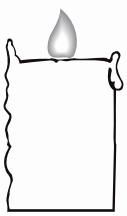
A)

B)

C)

f) Which candle is the widest?

A)



B)

C)

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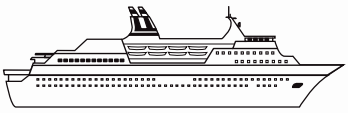
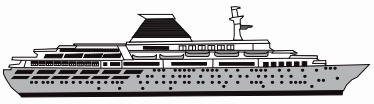
g) Circle the rabbit with the longest ears.

h) Which ship is the longest?

A) 

B) 

C)

i) Which is likely to be the longest?

A) car
B) scooter
C) train

j) Which is likely to be the shortest?

A) cup
B) toaster
C) kettle

k) Which is likely to be the shortest?

A) sword
B) javelin
C) relay baton

l) Which person is likely to be the tallest?

A) baby
B) woman
C) child

m) Which is likely to be the widest?

A) window
B) doorway
C) driveway

n) Which is likely to be the longest?

A) broom
B) axe
C) toilet brush

o) Which is the shortest?

A) paper clip
4 centimetres
B) hair brush
20 centimetres

p) Which rail trip is the longest?

A) The TranzAlpine
223 kilometres
B) The Coastal Pacific
348 kilometres

q) Which river is the shortest?

A) Taieri River
288 kilometres
B) Waikato River
425 kilometres

r) Which shrub is the shortest?

A) Common Heath
2 metres
B) Golden Wattle
4 metres

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Skill 15.2 Comparing objects based on their weight (1).

- Weigh the object if possible.
- Use your best estimate.
- Compare the given weights.

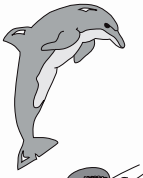
Q. Which animal is likely to weigh the least?

A) B) C)

A. ***B***

a) Which animal is likely to weigh the most?

A)

B) 

C)

b) Which animal is likely to weigh the least?

A)

B)

C)

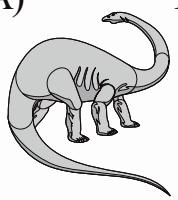
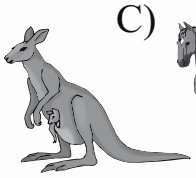
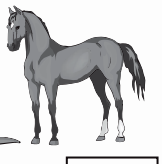
c) Which animal is likely to weigh the least?

A) B) C)

d) Which animal is likely to weigh the most?

A) B) C)

e) Which animal is likely to weigh the most?

A)  B)  C) 

f) Which object is likely to weigh the most?

A) sheet of A4 paper
B) sandal
C) cement brick

g) Which object is likely to weigh the most?

A) banana
B) cherry
C) strawberry

h) Which object is likely to weigh the least?

A) ship
B) paper plane
C) bicycle

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Skill 15.2 Comparing objects based on their weight (2).

i) Which object is likely to weigh the most?

A) television
B) refrigerator
C) microwave oven

j) Which object is likely to weigh the least?

A) candy bar
B) bag of cement
C) bag of potatoes

k) Which object does ***not*** weigh about 1 kilogram?

A) a clothes iron
B) a teaspoon
C) a bicycle pump

l) Which object does ***not*** weigh about 1 kilogram?

A) a bunch of 5 bananas
B) a medium rockmelon
C) an iPhone

m) Which object does weigh about 1 kilogram?

A) an office chair
B) a paper clip
C) a pineapple

n) Which object does weigh about 1 kilogram?

A) a small laptop
B) a tomato
C) a motor bike

o) What is the total weight of a stack of 50 TV guides?

TV guide = 30 grams

g

p) What is the total weight of 3 pecan pies?

pecan pie = 900 grams

g

q) What is the total weight of a roll of 20 ten-cent coins?

ten-cent coin = 3 grams

g

r) What is the total weight of 6 sausage rolls?

sausage roll = 110 grams

g

s) How much more does a tennis racquet weigh than a squash racqet?

A) squash racquet = 150 grams
B) tennis racquet = 280 grams

g

t) How much more does a can of fruit weigh than a can of soup?

A) can of fruit = 825 grams
B) can of soup = 420 grams

g

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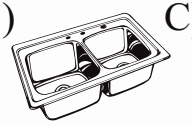
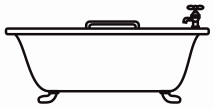
Skill 15.3 Comparing objects based on their capacity (1).

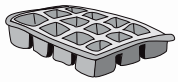
- Measure the volume if possible.
- Use your best estimate.
- Compare the given volumes.

Q. Which container is likely to have the greatest capacity?

A) B)  C) 

A. *C*

a) Which container is likely to have the greatest volume?

A) 

B)

C)

b) Which container is likely to have the least capacity?

A)

B)

C)

c) Which ball has the greatest volume?

A)
Volleyball

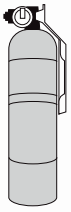
B)
Handball

C)
Tennis ball

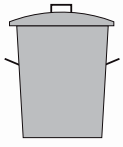
d) Which container is likely to hold the least volume?

A) B) C)

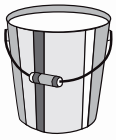
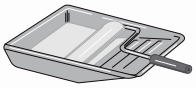
e) Which container is likely to hold the least volume?

A)  B) C)

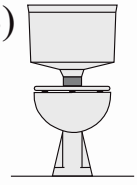
f) Which container is likely to have the greatest capacity?

A)  B) C)

g) Which container is likely to hold the greatest volume?

A) B)  C) 

h) Which container is likely to have the least capacity?

A) B)  C)

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i) Which object is likely to have the greatest capacity?

A) thimble
B) tea cup
C) match box

j) Which object is likely to have the least capacity?

A) petrol can
B) wine barrel
C) jam jar

k) Which object is likely to have the greatest capacity?

A) bird bath
B) swimming pool
C) kitchen sink

l) Which object is likely to hold the greatest volume?

A) baby's bottle
B) drink bottle
C) esky

m) Which object is likely to hold the least volume?

A) watering can
B) cement mixer
C) wheelbarrow

n) How many more litres does a wheelbarrow hold than a rubbish bin?

rubbish bin = 125 litres
wheelbarrow = 170 litres

L

o) How many times would you have filled the sprayer if you used 64 litres of spray?

back pack sprayer = 8 litres

p) How many more millilitres of liquid in the sauce bottle than the salad dressing bottle?

A) sauce bottle = 500 millilitres
B) salad dressing bottle = 330 millilitres

mL

q) What is the total volume of an egg?

egg yolk = 22 mL
egg white = 30 mL

mL

r) What is the total volume of a soda can and a drink bottle?

soda can = 375 millilitres
drink bottle = 330 millilitres

mL

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Skill 15.4 Estimating length, weight and capacity by using the standard units of measurement.

Measuring an object

- Check with a measuring instrument the given unit of length, weight or capacity.
- Compare the object with the unit.

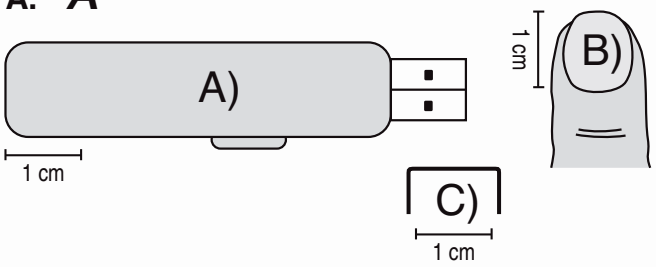
Comparing objects

- Check with a measuring instrument the given unit of length, weight or capacity.
- Measure the given objects, if possible.

Q. Which object is ***not*** about 1 centimetre long?

A) USB drive
B) finger nail
C) staple

A. ***A***



a) A mug holds:

A) less than a litre
B) about a litre
C) more than a litre

b) The length of a calculator is:

A) less than a metre
B) about a metre
C) more than a metre

c) An orange weighs:

A) less than a kilogram
B) about a kilogram
C) more than a kilogram

d) The length of a lamp post is:

A) less than a metre
B) about a metre
C) more than a metre

e) Which item weighs about 1 kilogram?

A) BBQ
B) clothes iron
C) spoon

f) Which item would hold about 1 litre?

A) washing machine
B) thimble
C) carton of milk

g) Which object is about 1 centimetre long?

A) biro
B) envelope
C) drawing pin

h) Which object is ***not*** about 1 metre high?

A) guitar
B) ukulele
C) cello

i) Which item would hold about 1 litre?

A) thermos
B) pen refill
C) milk vat

j) Which object is about 1 metre high?

A) stilts
B) pogo stick
C) roller blades

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Skill 15.5 Selecting the appropriate units of measurement.

Choosing the type of unit
- Consider which units measure length, weight or capacity.

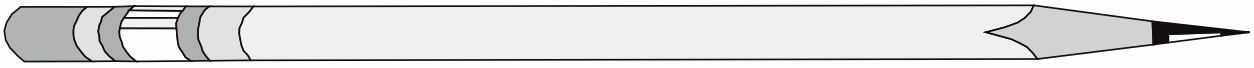
Choosing the size of unit
- Consider the amount of each unit and what is reasonable.

Q. Which unit measures the length of a pencil?

A) millimetre (mm)
B) metre (m)

A. ***A***

A millimetre looks like this: -
A metre is over 3 times the length of this page.
This is a possible pencil length.



So the length of a pencil is measured in millimetres not metres.

a) Which unit measures the volume of juice in a jug?

A) metre (m)
B) litre (L)
C) gram (g)

b) Which unit measures the length of a piece of wood?

A) litre (L)
B) kilogram (kg)
C) millimetre (mm)

c) Which unit measures the volume of water in a puddle?

A) kilometre (km)
B) kilogram (kg)
C) litre (L)

d) Which unit measures the weight of a new born chick?

A) kilogram (kg)
B) gram (g)

e) Which unit measures the length of a paper clip?

A) centimetre (cm)
B) metre (m)

f) Which unit measures the weight of a bag of cement?

A) kilogram (kg)
B) gram (g)

g) Which unit measures the width of a mobile phone?

A) kilometre (km)
B) centimetre (cm)

h) Which unit measures the volume of medicine in an eye dropper?

A) millilitre (mL)
B) litre (L)

i) Which unit is most commonly used to measure the length of a highway?

A) centimetre (cm)
B) kilometre (km)
C) metre (m)

j) Which unit is most commonly used to measure the capacity of a swimming pool?

A) litre (L)
B) millilitre (mL)

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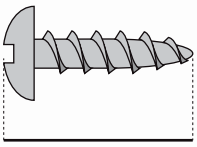
Skill 15.6 Measuring length by using a ruler.

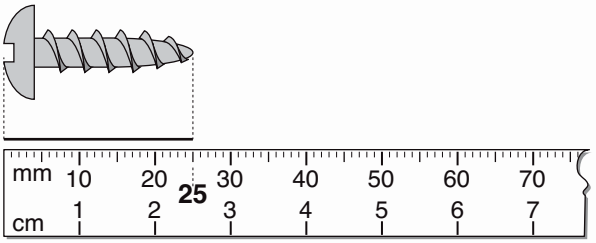
- Align the left edge of the ruler (zero) to the left edge of the object.
- Measure using the unit needed.
- Read in centimetres or use the fact 10 mm = 1 cm, to read in millimetres.

Q. Use a ruler to measure the length of the screw.

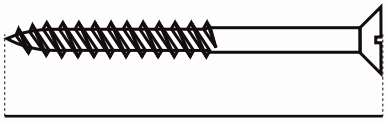


mm

A. ***25 mm***



a) Use a ruler to measure the length of the screw.

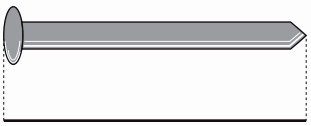


cm

b) Use a ruler to measure the length of the nail.

cm

c) Use a ruler to measure the length of the nail.



cm

d) Use a ruler to measure the length of the needle.

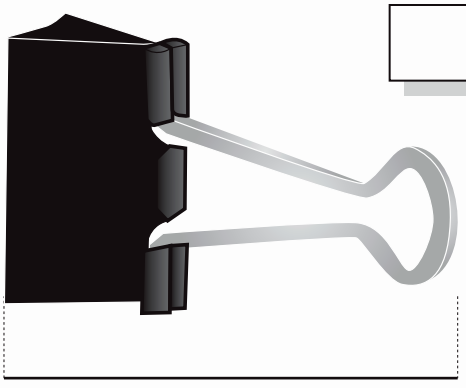
cm

e) Use a ruler to measure the length of the bullet.

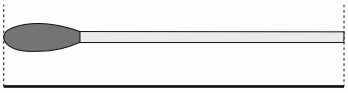
cm

f) Use a ruler to measure the length of the clip.

cm

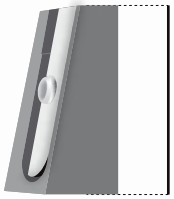


g) Use a ruler to measure the length of the match.



mm

h) Use a ruler to measure the height of the sharpener.



mm

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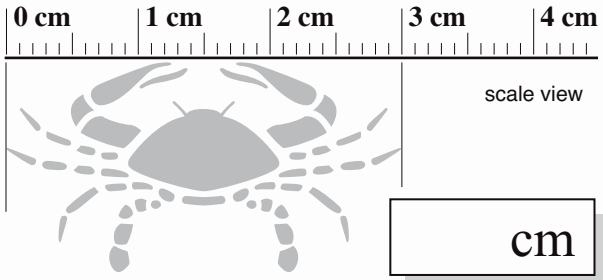
Skill 15.7 Reading scales for length, weight and capacity (1).

- Read the number that matches the length, weight or capacity on the scale.

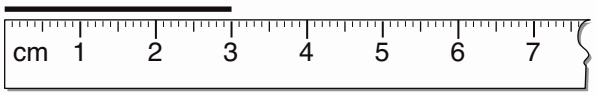
Q. Use the scale. How wide is the crab?



cm

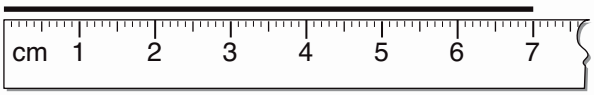
A. ***3 cm***

a) Use this ruler to measure the length of the line.



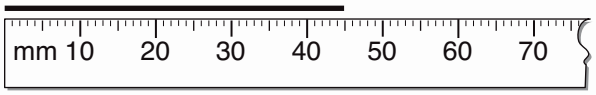
cm

b) Use this ruler to measure the length of the line.



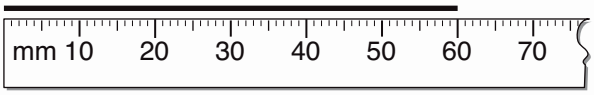
cm

c) Use this ruler to measure the length of the line.



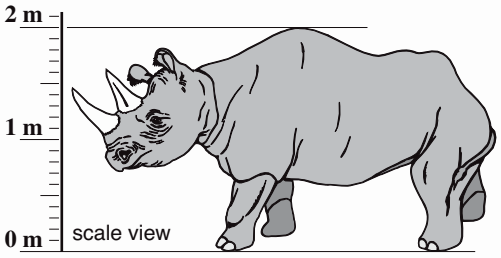
mm

d) Use this ruler to measure the length of the line.



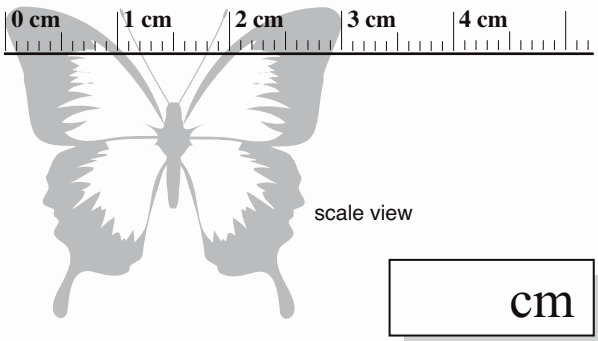
mm

e) Use the scale. How tall is the rhinoceros?



m

f) Use the scale. How wide is the butterfly?



cm

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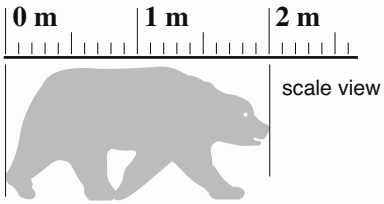
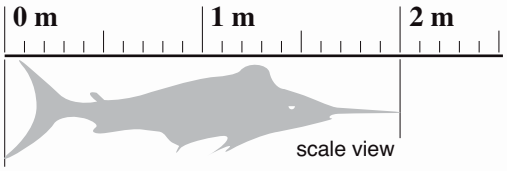
g) Use the scale. How long is the bear?



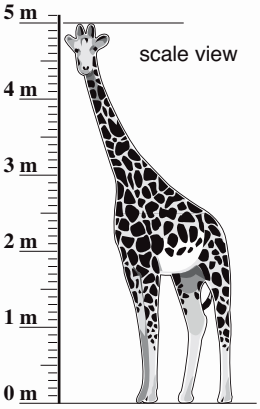
m

h) Use the scale. How long is the shark?



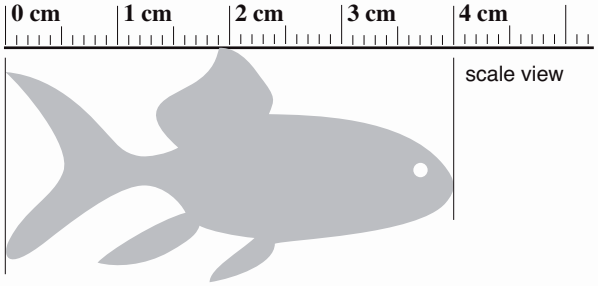
m

i) Use the scale. How tall is the giraffe?



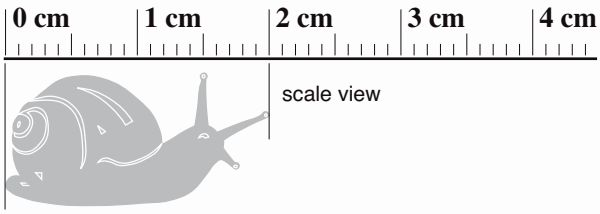
m

j) Use the scale. How long is the fish?



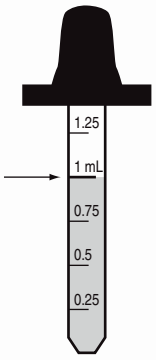
cm

k) Use the scale. How long is the snail?



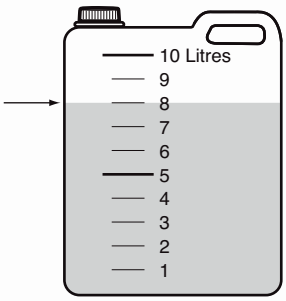
cm

l) What is the volume of the medicine?



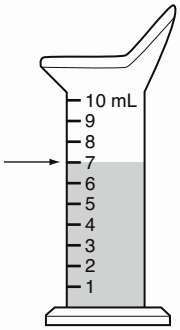
mL

m) What is the volume of the petrol?



L

n) What is the volume of the medicine?



mL

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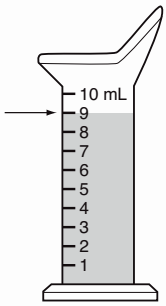
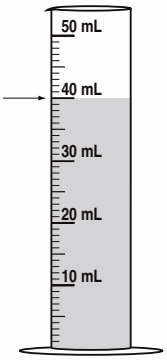
o) What is the volume of the medicine?



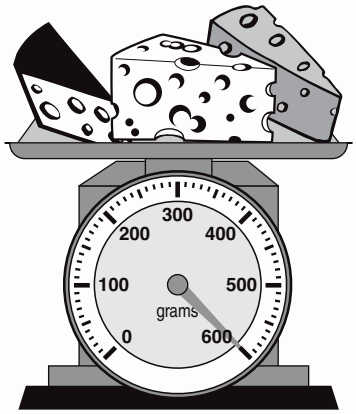
mL

p) What is the volume of the water?



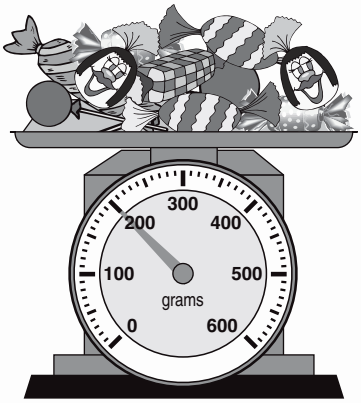
mL

q) What is the weight of the cheese?



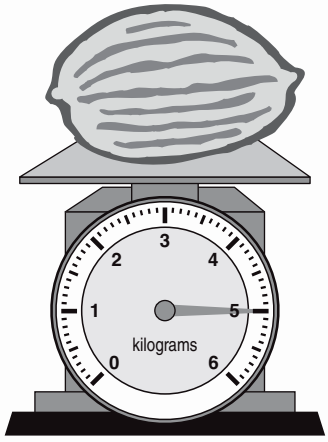
g

r) What is the weight of the lollies?



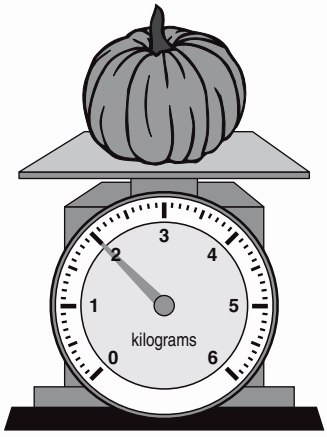
g

s) What is the weight of the watermelon?



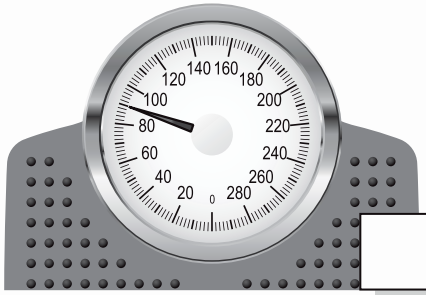
kg

t) What is the weight of the pumpkin?



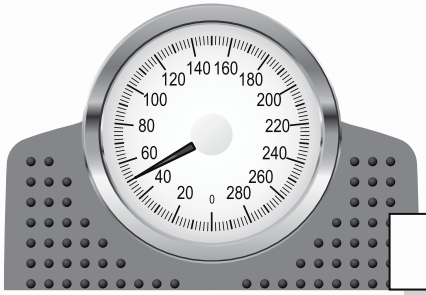
kg

u) What is the weight shown on the bathroom scale?



kg

v) What is the weight shown on the bathroom scale?



kg

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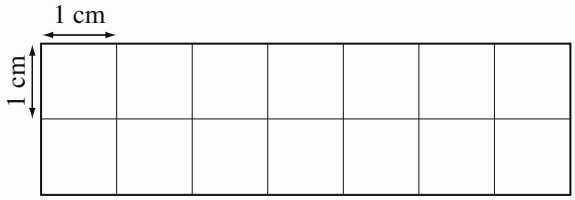
Skill 15.8 Finding the perimeter of a shape by counting the units around the shape on a grid (1).

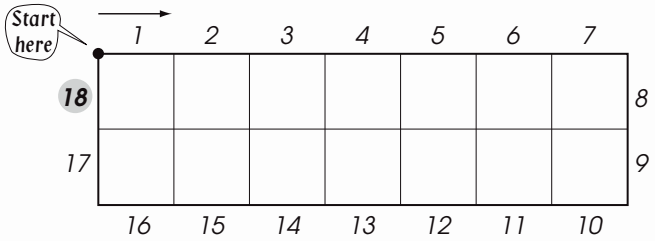
- Mark a starting point and count the number of grid units around the outside of the shape.
  Hint: The perimeter is the distance around the outside of a shape.

Q. What is the distance around this rectangle (perimeter)?



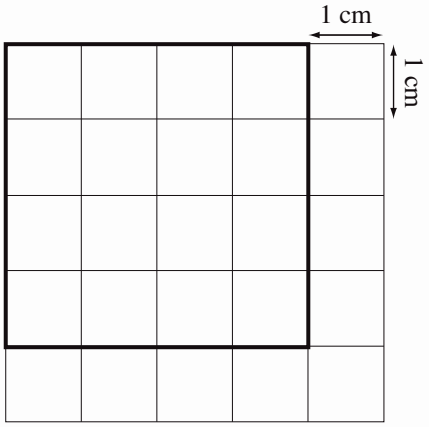
cm

A. ***18 cm***



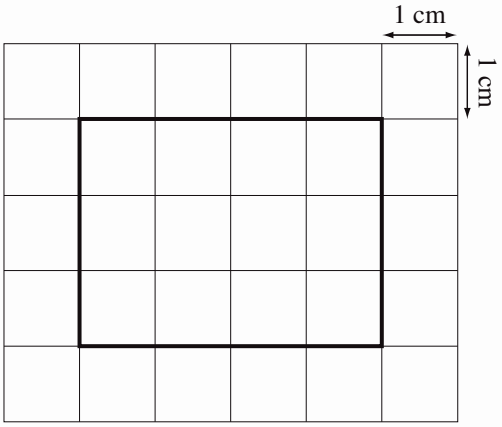
Each grid unit measures 1 cm.
Mark a starting point.
Count the number of grid units around the outside of the shape.
The perimeter is 18 centimetres.

a) What is the distance around this square (perimeter)?



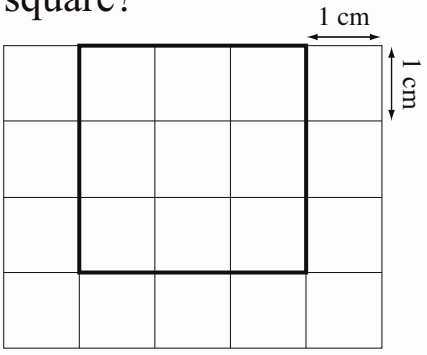
cm

b) What is the distance around this rectangle (perimeter)?



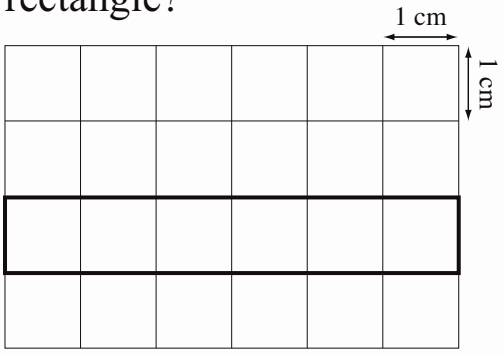
cm

c) What is the perimeter of this square?



cm

d) What is the perimeter of this rectangle?



cm

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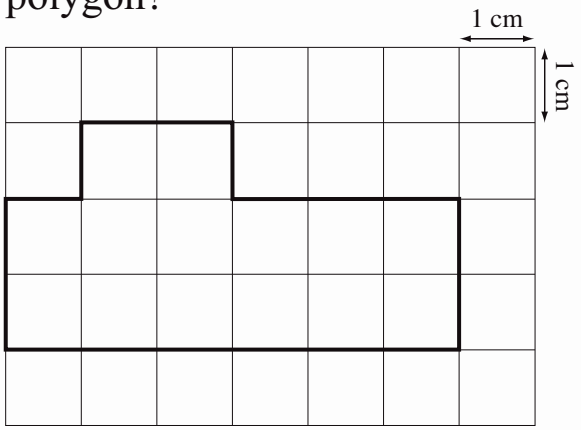
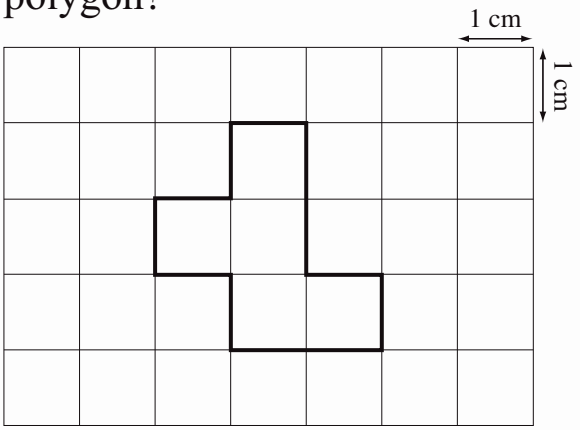
Skill 15.8 Finding the perimeter of a shape by counting the units around the shape on a grid (2).

e) What is the perimeter of this polygon?



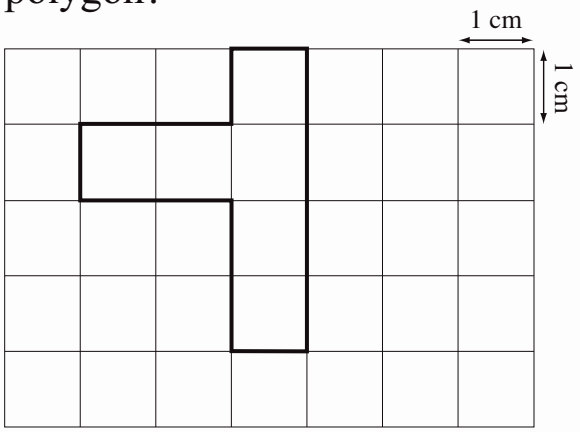
cm

f) What is the perimeter of this polygon?



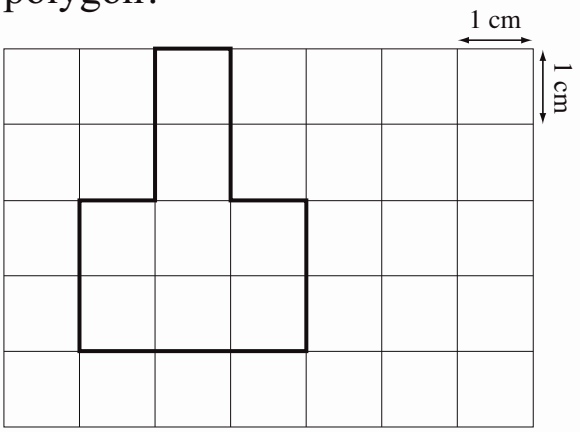
cm

g) What is the perimeter of this polygon?



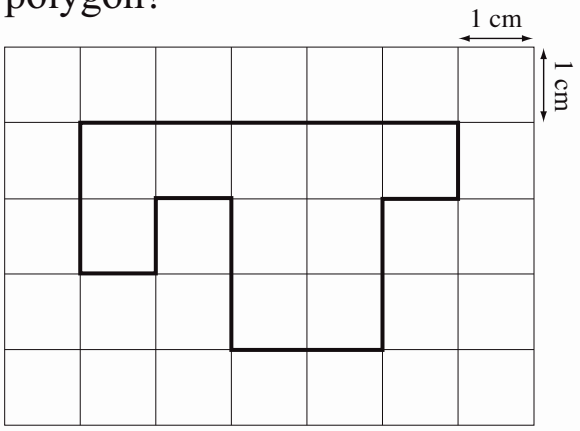
cm

h) What is the perimeter of this polygon?



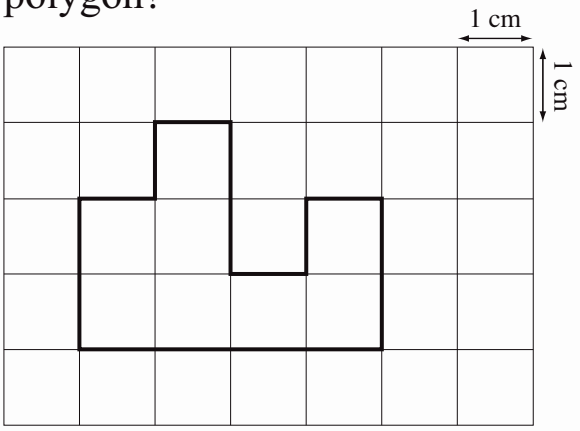
cm

i) What is the perimeter of this polygon?



cm

j) What is the perimeter of this polygon?



cm

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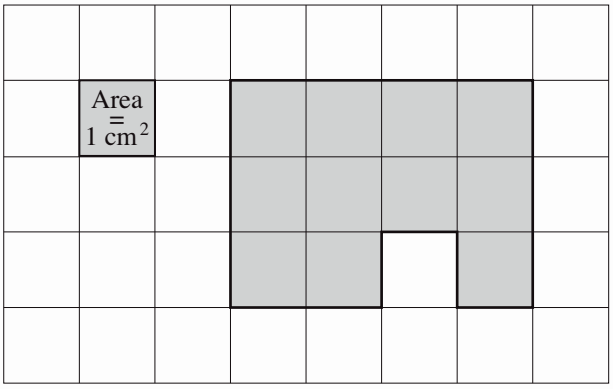
Skill 15.9 Finding the area of a shape by counting the unit squares covered by the shape on a grid (1).

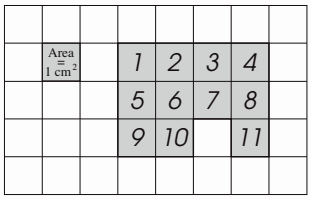
- Count the number of squares of a certain size that are needed to cover the shape.
  Hint: The area is the size a surface takes up.

Q. Find the area of the shaded shape.



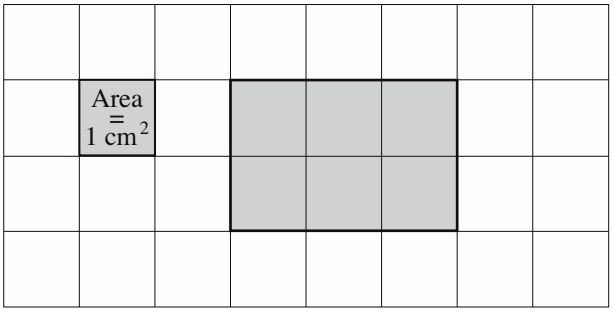
cm²

A. ***11 cm²***



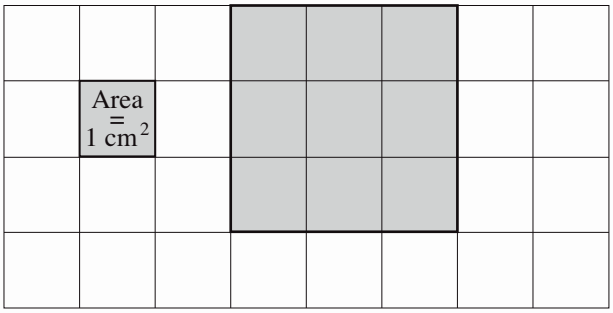
Each square is 1 cm on each side.
Count the squares that cover the surface inside the shape.
There are 11 squares, each with an area of 1 cm²
Area = 11 × 1 cm²
= 11 cm²

a) Find the area of the shaded rectangle.



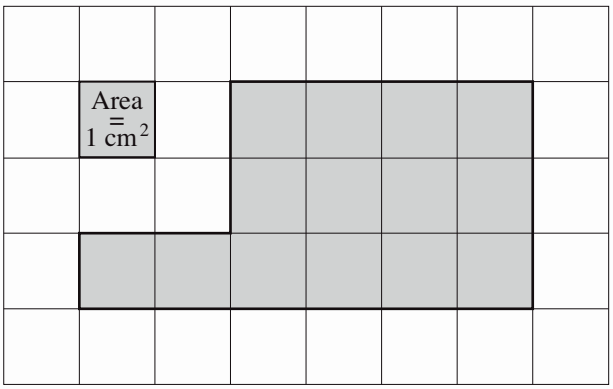
cm²

b) Find the area of the shaded square.



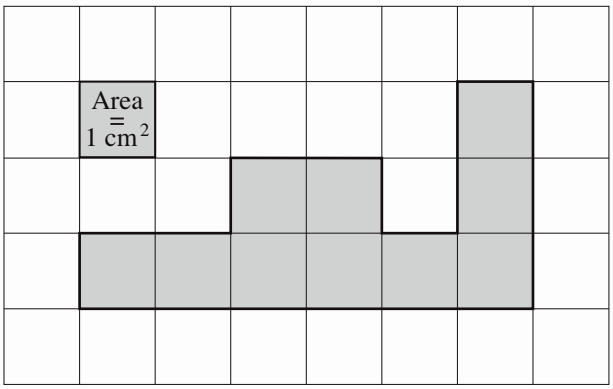
cm²

c) Find the area of the shaded shape.



cm²

d) Find the area of the shaded shape.



cm²

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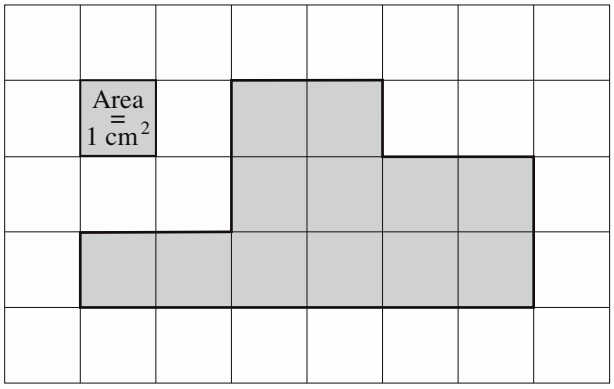
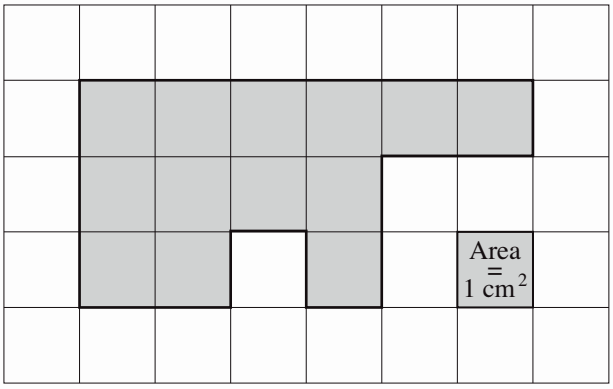
Skill 15.9 Finding the area of a shape by counting the unit squares covered by the shape on a grid (2).

e) Find the area of the shaded shape.



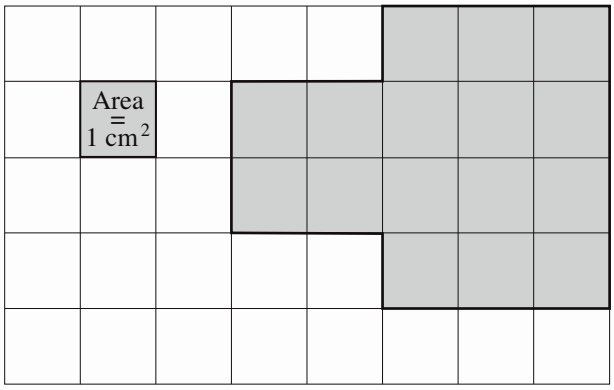
cm²

f) Find the area of the shaded shape.



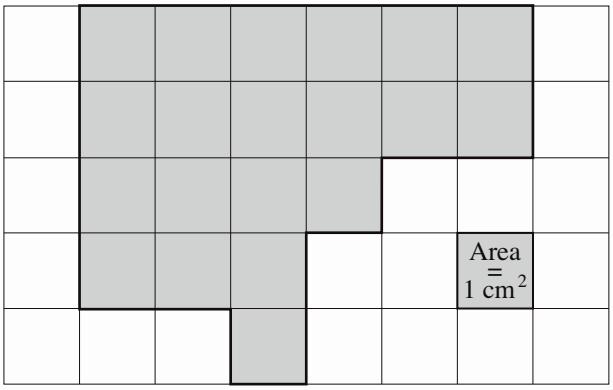
cm²

g) Find the area of the shaded shape.



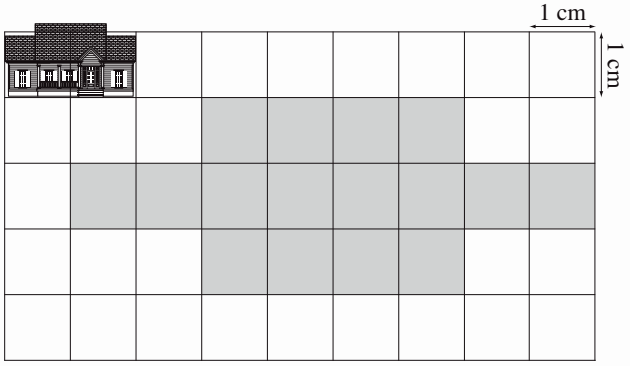
cm²

h) Find the area of the shaded shape.



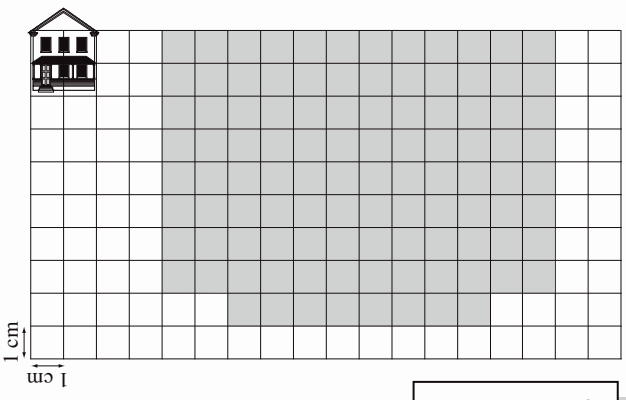
cm²

i) The area of the doll's house sketch is shaded. Find the area.



cm²

j) The area of the cubby house sketch is shaded. Find the area.



cm²

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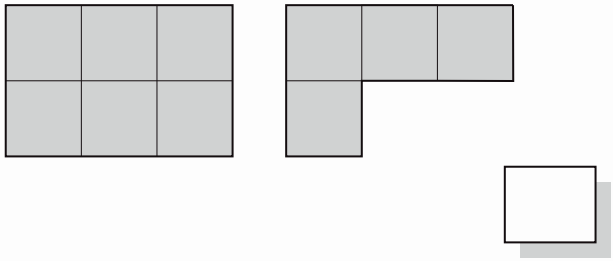
Skill 15.9 Finding the area of a shape by counting the unit squares covered by the shape on a grid (3).

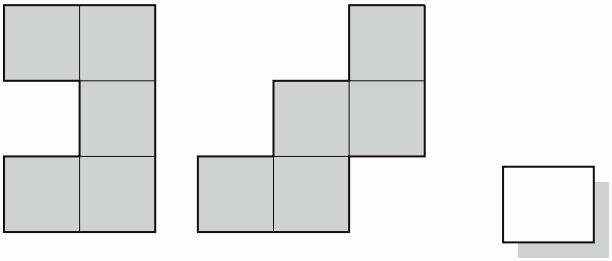
k) The shapes below have the same:

A) perimeter
B) area
C) perimeter and area



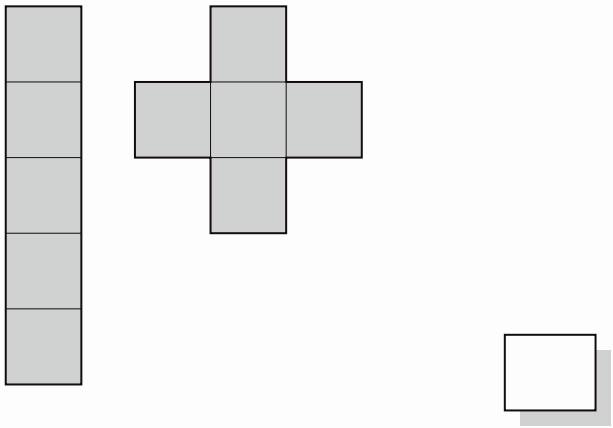
l) The shapes below have the same:

A) perimeter
B) area
C) perimeter and area



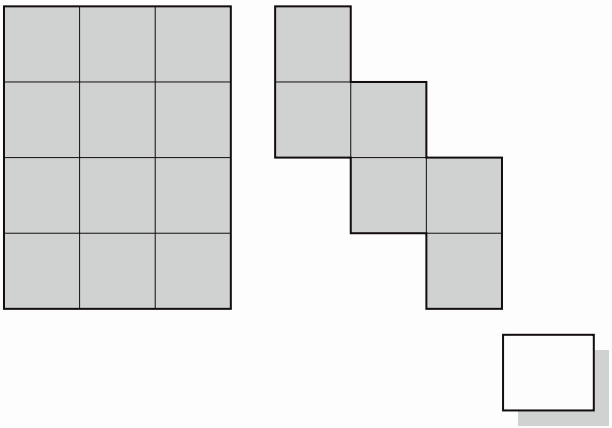
m) The shapes below have the same:

A) perimeter
B) area
C) perimeter and area



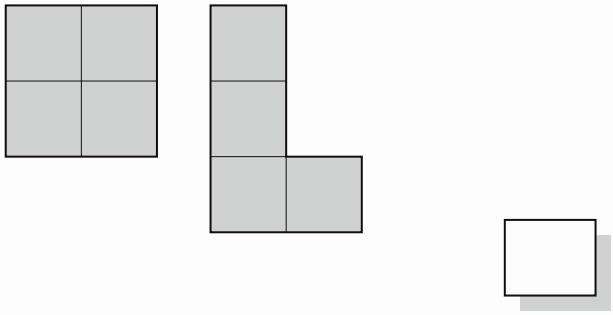
n) The shapes below have the same:

A) perimeter
B) area
C) perimeter and area



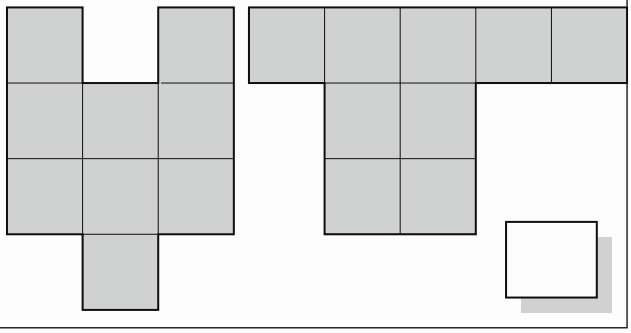
o) The shapes below have the same:

A) perimeter
B) area
C) perimeter and area



p) The shapes below have the same:

A) perimeter
B) area
C) perimeter and area



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Skill 15.10 Converting units of length.

To change from **smaller** units to **larger** units
- Divide by the conversion factor (because you need less).

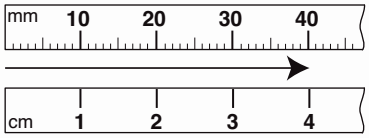
Example: To change 40 millimetres to centimetres ÷ **by 10**

To change from **larger** units to **smaller** units
- Multiply by the conversion factor (because you need more).

Example: To change 4 centimetres to millimetres × **by 10**

Conversion Facts - LENGTH

1 km = 1000 m = 100 000 cm = 1 000 000 mm
1 m = 100 cm = 1000 mm
1 cm = 10 mm



Q. A queen size matress is 150 centimetres wide. How many metres is this? [1 m = 100 cm]

A) 15 B) 1.5
C) 1500 D) 0.15

A. *150 cm ÷ 100 = 1.5 m* To convert 150 cm to m, divide by 100.
B

a) At 3 months old the average boy is 60 cm long. How many millimetres is this? [1 cm = 10 mm]

A) 0.6 B) 6
C) 600 D) 6000

60 cm × 10 = 600 mm

b) The Carrington Falls (NSW) is 50 metres high. How many centimetres is this? [1 m = 100 cm]

A) 500 B) 5000
C) 5 D) 0.5

c) The width of an A4 sheet of paper is 210 millimetres. How many centimetres is this? [1 cm = 10 mm]

A) 2.1 B) 2100
C) 210 D) 21

d) The AFL ground has a minimum width of 110 metres. How many centimetres is this? [1 m = 100 cm]

A) 11 B) 1.1
C) 11 000 D) 1100

e) The length of an average paper clip is 30 millimetres. How many centimetres is this? [1 cm = 10 mm]

A) 0.3 B) 3
C) 300 D) 3000

f) A standard table tennis table is 275 centimetres long. How many millimetres is this? [1 cm = 10 mm]

A) 2.75 B) 27.5
C) 2750 D) 27 500

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Skill 15.11 Converting units of mass (weight).

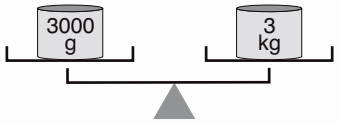
To change from **smaller** units to **larger** units
- Divide by the conversion factor (because you need less).

Example: To change 3000 grams to kilograms ÷ **by 1000**

To change from **larger** units to **smaller** units
- Multiply by the conversion factor (because you need more).

Example: To change 3 kilograms to grams × **by 1000**

Conversion Facts - MASS
1 tonne = 1000 kg = 1 000 000 g
1 kg = 1000 g



Q. A baby elephant weighs about 90 kilograms at birth. How many grams is this? [1 kg = 1000 grams]

A) 900 B) 9000
C) 90 000 D) 900 000

A. *90 kg × 1000 = 90 000 g*
C

To convert 90 kg to g, multiply by 1000.

a) A typical cricket bat weighs 1400 grams. How many kilograms is this? [1 kg = 1000 grams]

A) 0.14 B) 1.4
C) 14 D) 140

1400 g ÷ 1000 = ...

b) A gold nugget was discovered in Australia in 1869 weighing nearly 73 kilograms. How many grams is this? [1 kg = 1000 grams]

A) 7.3 B) 730
C) 7300 D) 73 000

.....

c) The weight of a laptop is 2 kg. How many grams is this? [1 kg = 1000 g]

A) 2000 B) 200
C) 20 D) 0.2

.....

d) The weight of an empty suitcase is 2700 grams. How many kilograms is this? [1 kg = 1000 g]

A) 27 B) 2.7
C) 270 D) 27 000

.....

e) How many kilograms in 3000 grams?

A) 300 B) 30
C) 3 D) 0.3

.....

f) How many grams in 9 kilograms?

A) 9000 B) 900
C) 90 D) 0.9

.....

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Skill 15.12 Converting units of capacity (liquid volume).

To change from **smaller** units to **larger** units
- Divide by the conversion factor (because you need less).

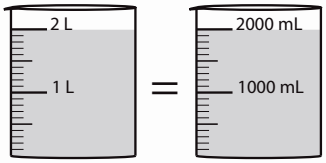
Example: To change 2000 millilitres to litres ÷ **by 1000**

To change from **larger** units to **smaller** units
- Multiply by the conversion factor (because you need more).

Example: To change 2 litres to millilitres × **by 1000**

Conversion Facts - CAPACITY

1 L (litre) = 1000 mL (millilitre)



Q. The average adult lung holds about 6 litres of air. How many millilitres is this? [1 L = 1000 mL]

A) 0.6 B) 60
C) 600 D) 6000

A. *6 litres × 1000 = 6000 mL*
D

To convert 6 litres to millilitres, multiply by 1000.

a) The fish tank holds 10 000 mL of water. How many 1 litre jugs of water are needed to fill the tank? [1000 mL = 1 litre]

A) 1000 B) 100
C) 10 D) 1

10000 mL ÷ 1000 = ...

b) To fill a standard bathtub you need 150 litres of water. How many millilitres is this? [1 L = 1000 mL]

A) 15 000 B) 150 000
C) 1500 D) 15

.....

c) A human bladder has a capacity of about 500 mL. How many litres is this? [1000 mL = 1 litre]

A) 0.5 B) 5
C) 50 D) 5000

.....

d) An average kitchen sink holds 20 litres of water. How many millilitres is this? [1 L = 1000 mL]

A) 200 B) 20 000
C) 2000 D) 2

.....

e) How many litres in 7000 millilitres?

A) 700 B) 70
C) 7 D) 0.7

.....

f) How many millilitres in 3 litres?

A) 3000 B) 300
C) 30 D) 0.3

.....

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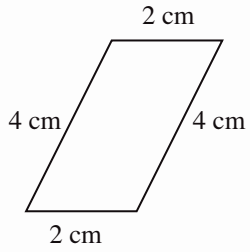
Skill 15.13 Finding the perimeter of a shape by adding the lengths of all sides.

- Add the lengths of each side.
  Hint: The perimeter is the distance around the outside of a shape.

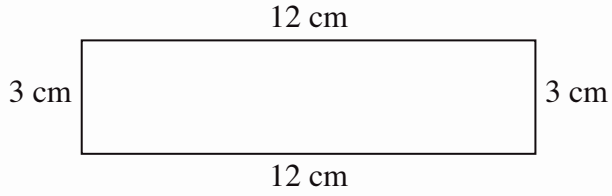
Q. Find the perimeter of the parallelogram.



cm

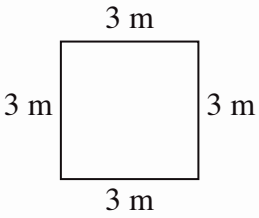
A. $2 + 4 + 2 + 4$
$= \mathbf{12\ cm}$

a) Find the perimeter of the rectangle.



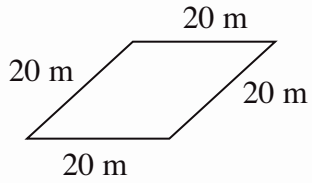
$12 + 3 + 12 + 3 =$ cm

b) Find the perimeter of the square.



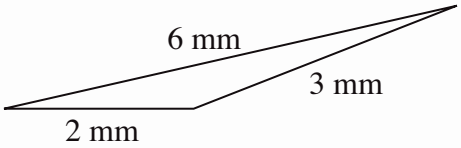
= m

c) Find the perimeter of the rhombus.



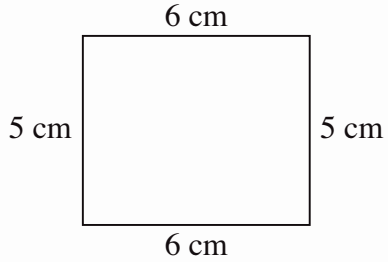
= m

d) Find the perimeter of the triangle.



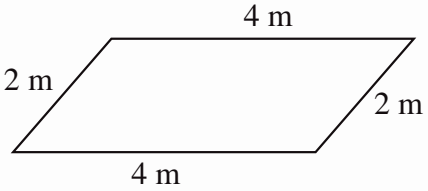
= mm

e) Find the perimeter of the rectangle.



= cm

f) Find the perimeter of the parallelogram.



= m

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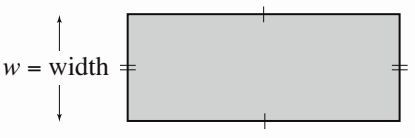
Skill 15.14 Finding the area of a rectangle by multiplying the side lengths.

- Count the number of squares of a certain size that are needed to cover the shape.

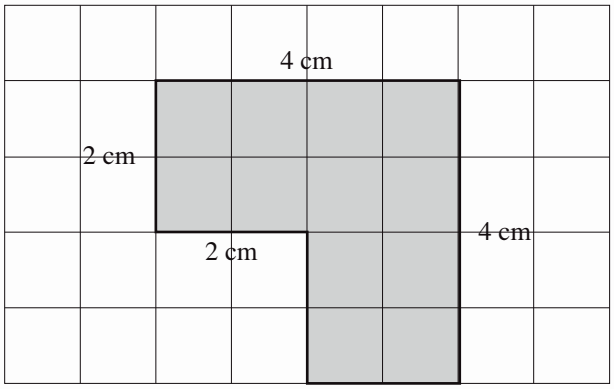
OR

- Divide the shape into rectangles.
- Multiply length by width of each rectangle: Area = $l \times w$
- Use the results from each rectangle to find the total area.

Area = length × width



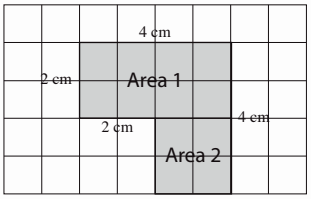
Q. Find the area of the shaded shape.



A. *Area 1* $= l \times w$
$= 4 \times 2$
$= 8\ cm^2$

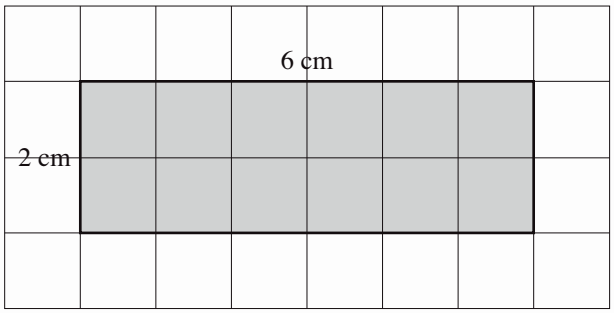
Area 2 $= l \times w$
$= 2 \times 2$
$= 4\ cm^2$

Area (total) $= 8 + 4$
$= \mathbf{12\ cm^2}$



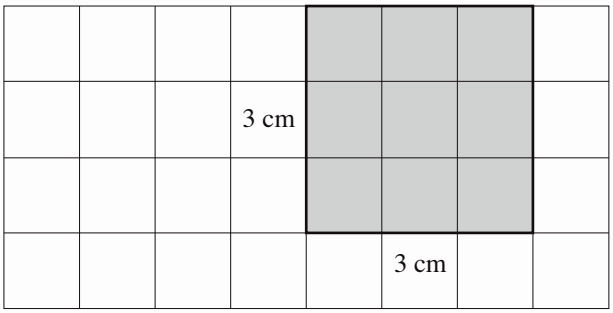
Add the areas of the 2 rectangles.

a) Find the area of the shaded shape.



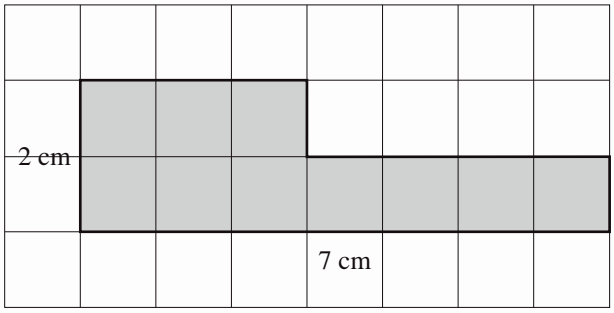
2 × 6 = ____ cm^2

b) Find the area of the shaded shape.



= ____ cm^2

c) Find the area of the shaded shape.

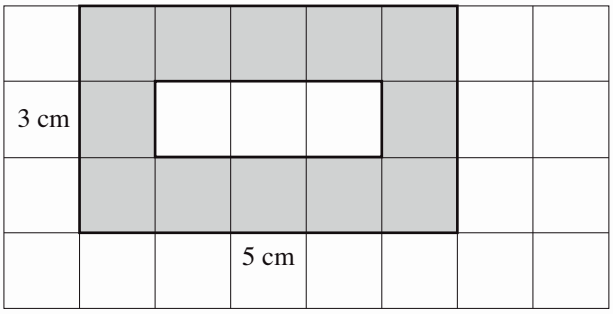


Area 1 = ____

Area 2 = ____

Area (total) = ____ cm^2

d) Find the area of the shaded shape.



Area 1 = ____

Area 2 = ____

Area (total) = ____ cm^2

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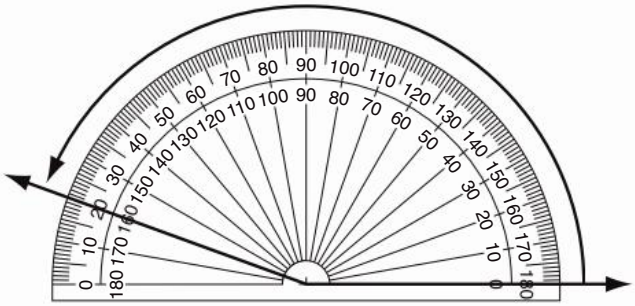
Skill 15.15 Measuring an angle using a protractor (1).

- Place the center of the protractor at the corner (vertex) of the angle.
- Align one line of the angle with a zero line on the protractor.
- Read the measurement where the other line of the angle crosses the scale on the protractor.

Hint: Protractors can be read using either the inside or outside scale depending on which zero is used.

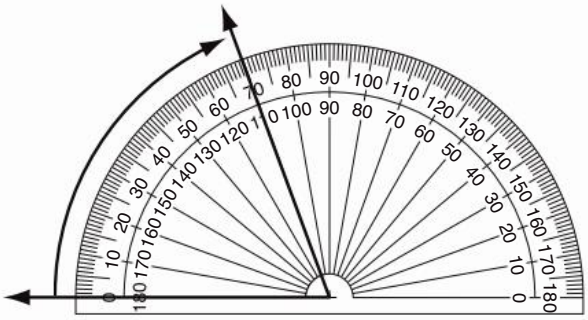
Q. Use the protractor to measure the size of this angle.



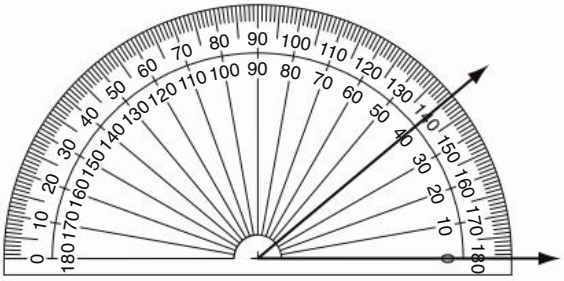
A. ***160°***

Read using the inside scale.
One line of the angle is at 0°.
The other line of the angle extends around to 160°.

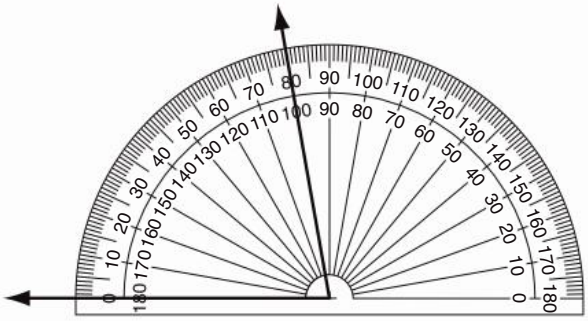
a) Use the protractor to measure the size of this angle.



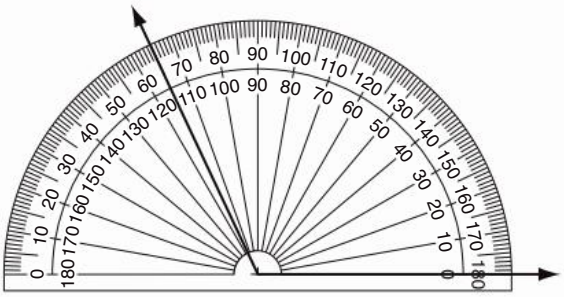
b) Use the protractor to measure the size of this angle.



c) Use the protractor to measure the size of this angle.



d) Use the protractor to measure the size of this angle.



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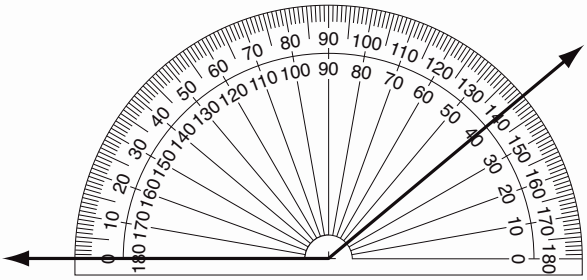
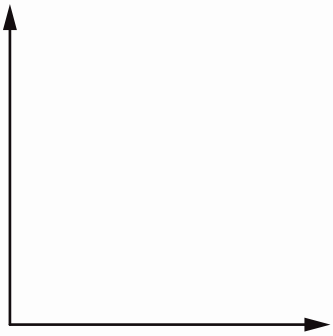
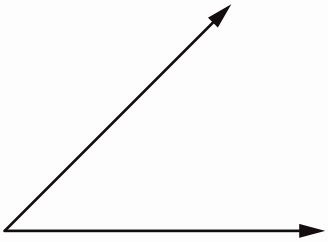
e) Use the protractor to measure the size of this angle.



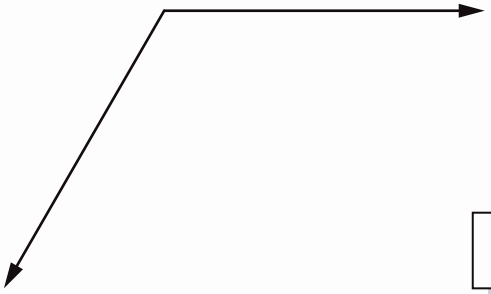
f) Use the protractor to measure the size of this angle.



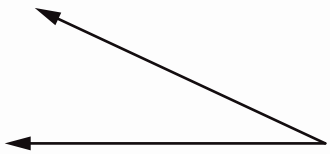
g) Use the protractor to measure the size of this angle.



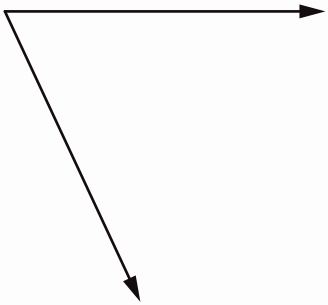
h) Use the protractor to measure the size of this angle.



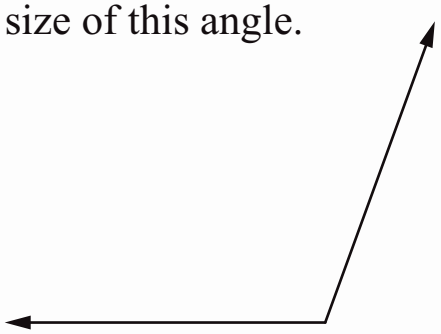
i) Use the protractor to measure the size of this angle.



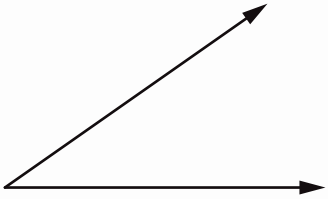
j) Use the protractor to measure the size of this angle.



k) Use the protractor to measure the size of this angle.



l) Use the protractor to measure the size of this angle.



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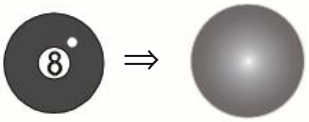
16. [Shapes]

Skill 16.1 Recognising 3D shapes (1).

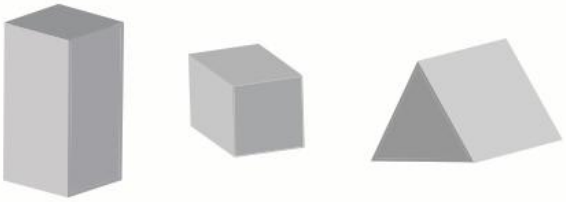
- Observe whether the 3D shape has a curved surface.
  If so, the shape will be either a cone, cylinder or sphere.
- Observe whether the curved surface formes a cone (narrowing to a point), a cylinder (sitting on two circular bases) or a sphere (perfectly round).
- If all surfaces are flat, then decide if the shape is a pyramid (narrowing to a point) or a prism (rectangular side faces).
- Observe whether the two bases of the prism are rectangles (rectangular prism), squares (square prism) or triangles (triangle prism).

Q. What shape is this object?

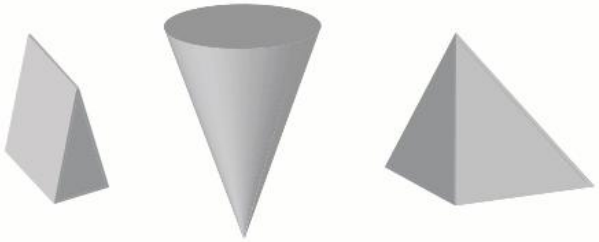
A. ***sphere***



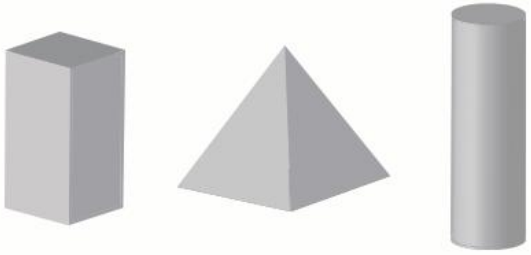
a) Circle the cube.



b) Circle the cone.



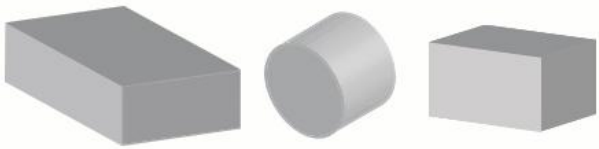
c) Circle the cylinder.



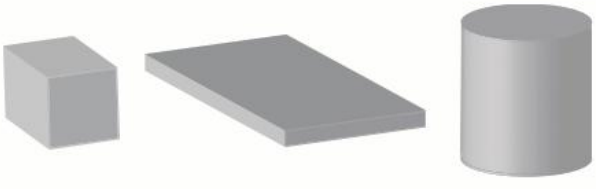
d) Circle the sphere.

e) Circle the pyramid.

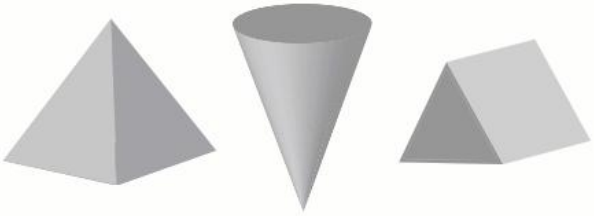
f) Circle the square prism.



g) Circle the rectangular prism.



h) Circle the triangular prism.



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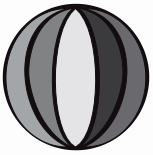
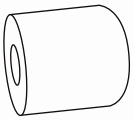
i) What shape is this object?

j) What shape is this object?

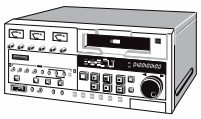


k) What shape is this object?

l) What shape is this object?

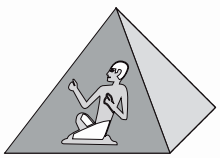


m) What shape is this object?

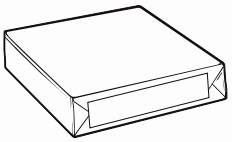


n) What shape is this object?

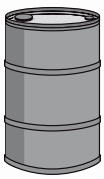
o) What shape is this object?



p) What shape is this object?



q) What shape is this object?



r) What shape is this object?

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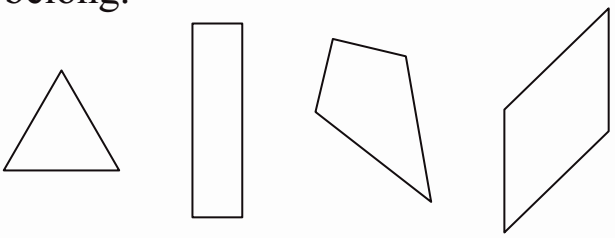
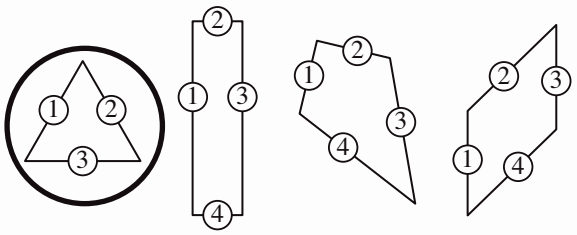
Skill 16.2 Recognising properties of 2D shapes.

- Count and compare the number of sides.
- Check whether the shape has straight or curved sides.

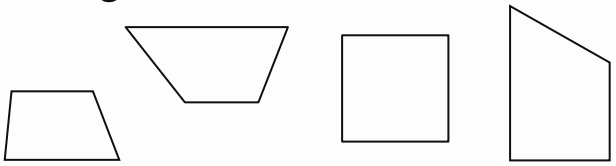
Q. Circle the shape that does ***not*** belong.



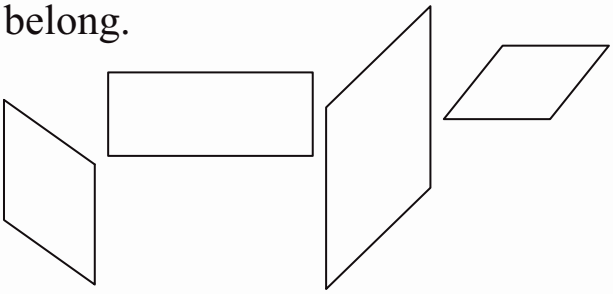
A.



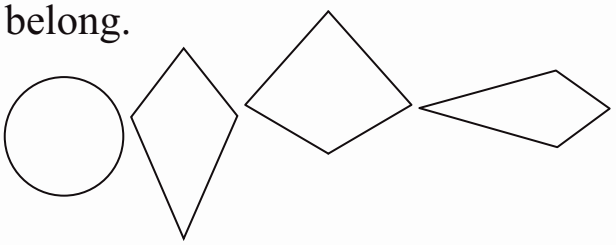
a) Circle the shape that does ***not*** belong.



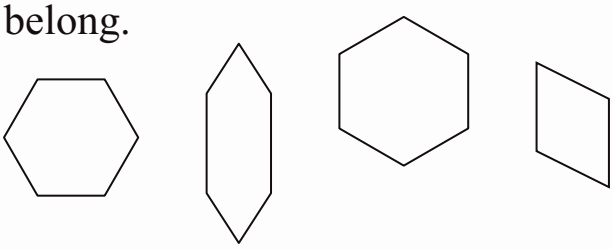
b) Circle the shape that does ***not*** belong.



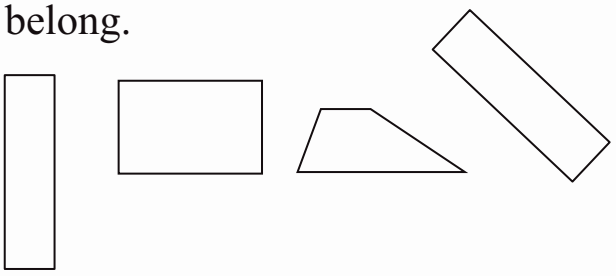
c) Circle the shape that does ***not*** belong.



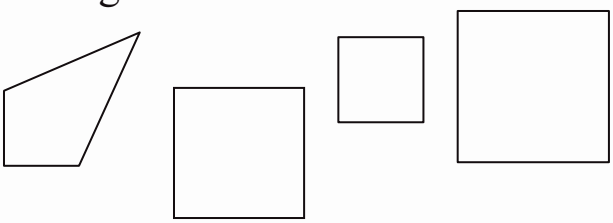
d) Circle the shape that does ***not*** belong.



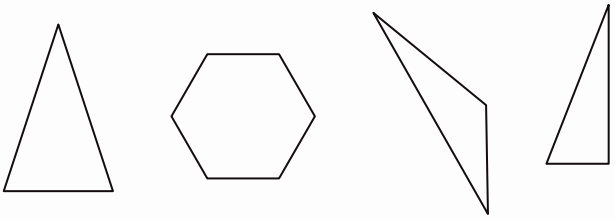
e) Circle the shape that does ***not*** belong.



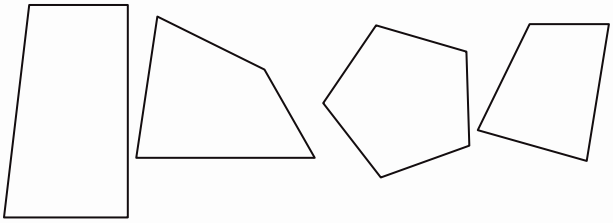
f) Circle the shape that does ***not*** belong.



g) Circle the shape that does ***not*** belong.



h) Circle the shape that does ***not*** belong.



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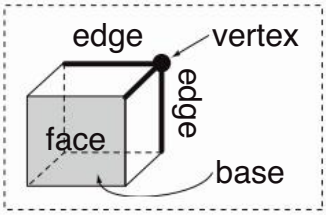
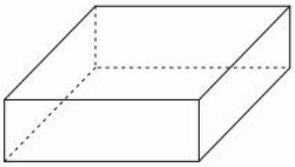
Skill 16.3 Counting vertices, edges and faces of 3D shapes.

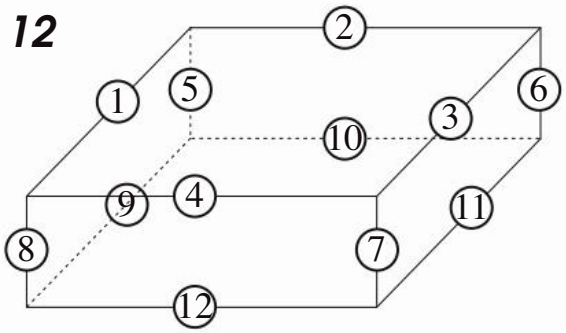
- See Glossary.



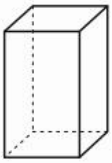
Q. How many edges does a rectangular prism have?



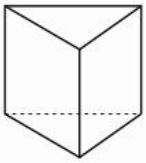
A. ***12***



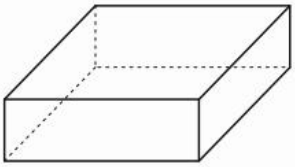
a) How many edges does a square prism have?



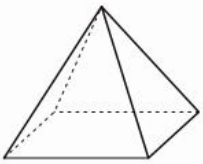
b) How many vertices does a triangular prism have?



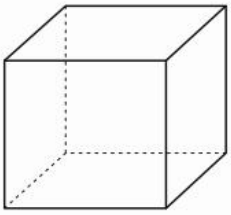
c) How many faces does a rectangular prism have?



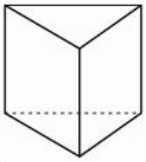
d) How many vertices does a square pyramid have?



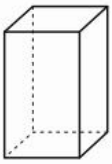
e) How many faces does a cube have?



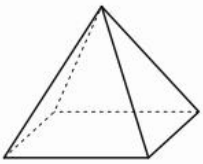
f) What shape is the base of a triangular prism?



g) What shape is the base of a square prism?



h) What shape is any lateral side of a pyramid?



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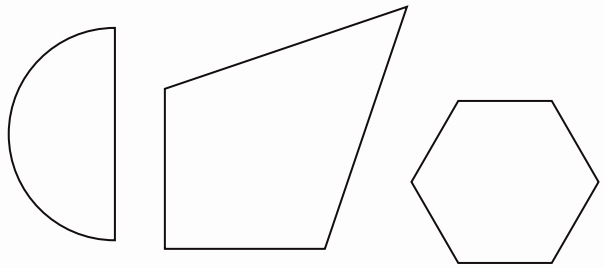
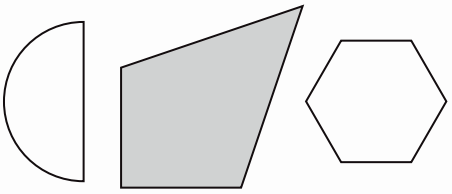
Skill 16.4 Recognising 2D shapes (1).

- See Glossary.

Q. Colour the kite.

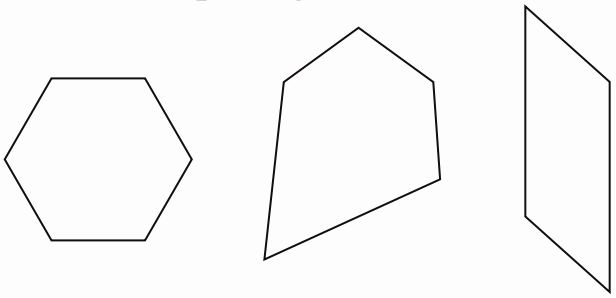


A.

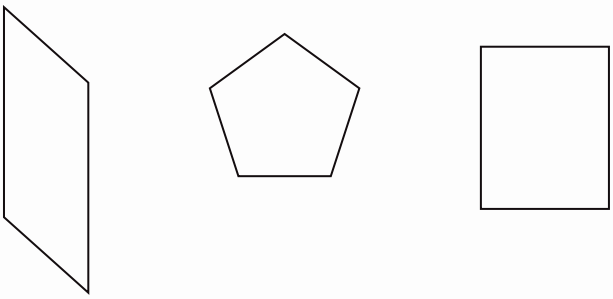


Shape 1 is a semicircle.
Shape 2 is a kite.
Shape 3 is a hexagon.

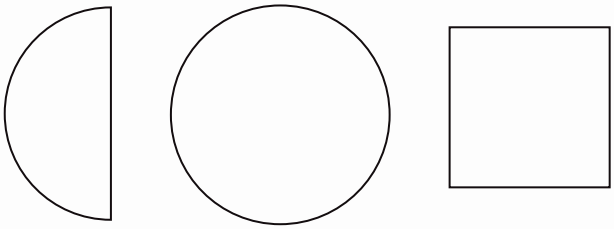
a) Colour the pentagon.



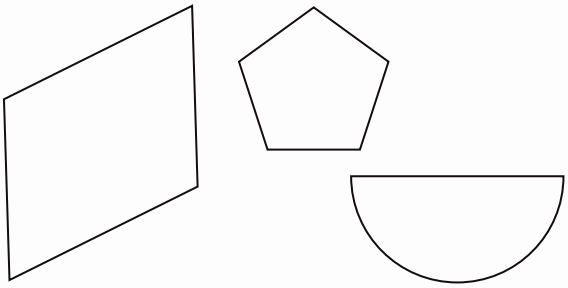
b) Colour the rectangle.



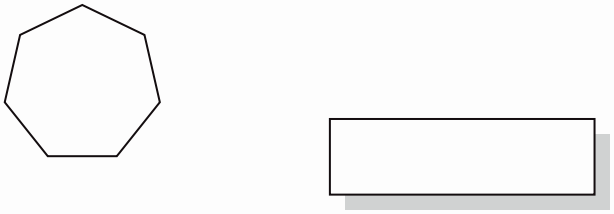
c) Colour the circle.



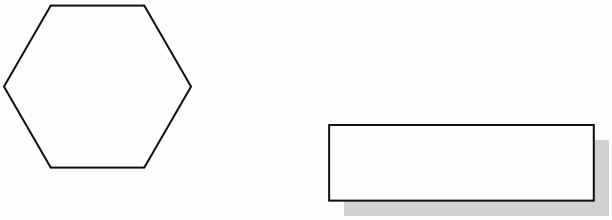
d) Colour the parallelogram.



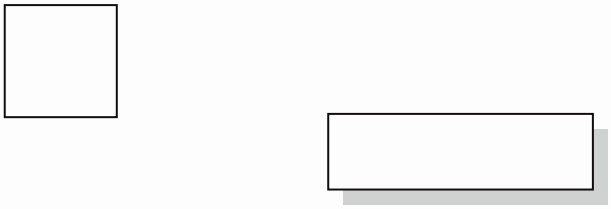
e) Name the shape.



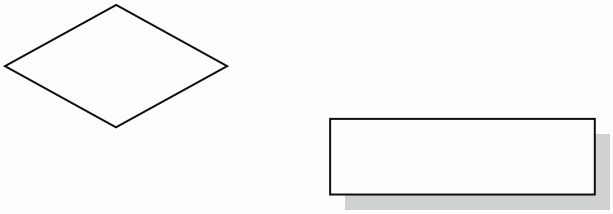
f) Name the shape.



g) Name the shape.



h) Name the shape.



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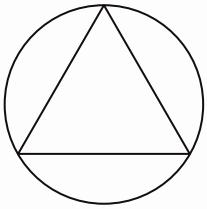
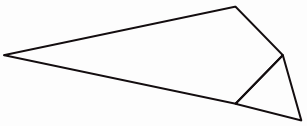
i) Name the two shapes used to make this figure.



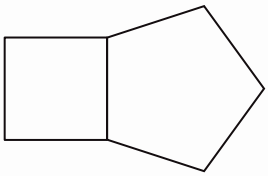
and

j) Name the two shapes used to make this figure.



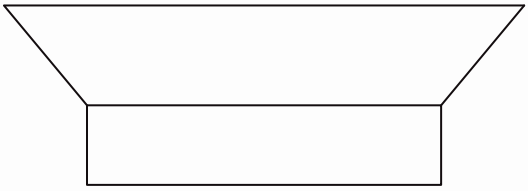
and

k) Name the two shapes used to make this figure.



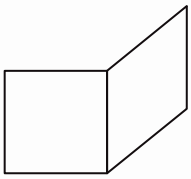
and

l) Name the two shapes used to make this figure.



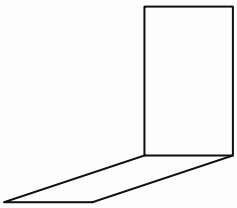
and

m) Name the two shapes used to make this figure.



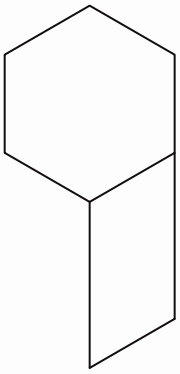
and

n) Name the two shapes used to make this figure.



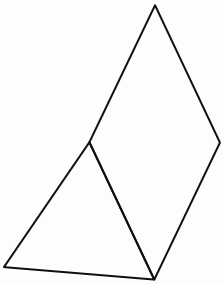
and

o) Name the two shapes used to make this figure.



and

p) Name the two shapes used to make this figure.



and

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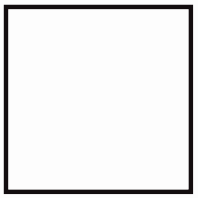
Skill 16.5 Drawing 2D shapes.

- See Glossary.

Q. Sketch a square.

A. 

Draw 4 equal lines, at right angles to each other.

a) Sketch a circle.

b) Sketch a heptagon.

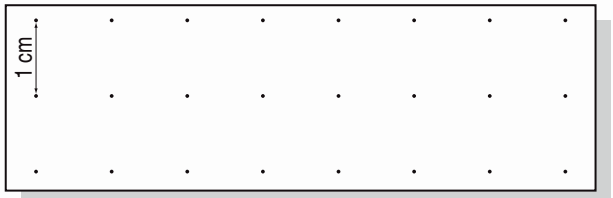
c) Sketch an octagon.

d) Sketch a pentagon.

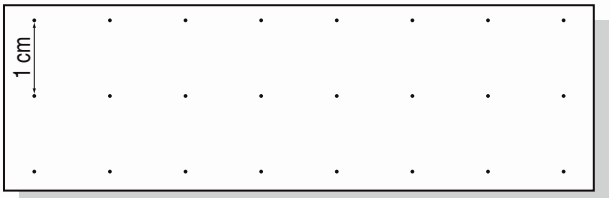
e) Sketch a rhombus.

f) Sketch a hexagon.

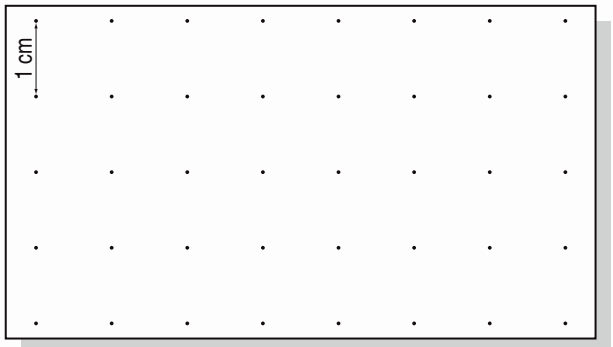
g) Draw a square of side length 2 cm on the grid.



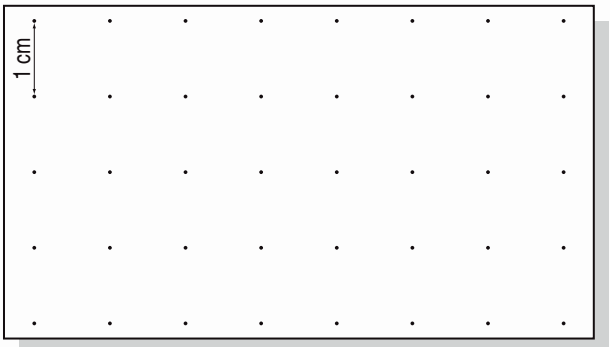
h) Draw a square of side length 1 cm on the grid.



i) Draw a rectangle with a length of 3 cm and a width of 1 cm on the grid.



j) Draw a rectangle with a length of 4 cm and a width of 3 cm on the grid.



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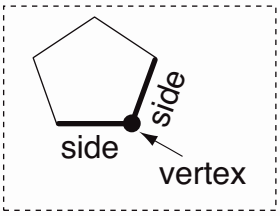
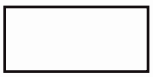
Skill 16.6 Counting vertices and sides of 2D shapes.

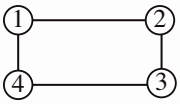
- See Glossary.



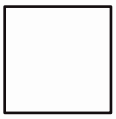
Q. How many vertices does a rectangle have?



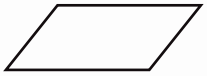
A. *4*



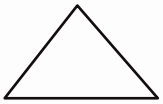
a) How many sides does a square have?



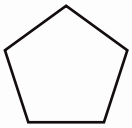
b) How many vertices does a parallelogram have?



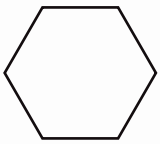
c) How many sides does a triangle have?



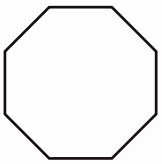
d) How many vertices does a pentagon have?



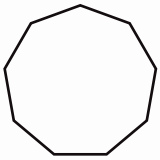
e) How many vertices does a hexagon have?



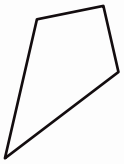
f) How many vertices does an octagon have?



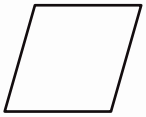
g) How many sides does a nonagon have?



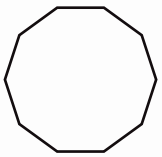
h) How many vertices does a kite have?



i) How many vertices does a rhombus have?



j) How many sides does a decagon have?



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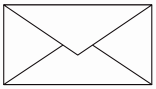
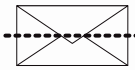
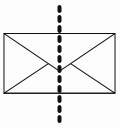
Skill 16.7 Drawing lines of symmetry in 2D shapes.

- Draw a line, or lines, through the middle of the shape.
- Check that, if you put a mirror on that line, what you see in the mirror is identical to what is behind the mirror.

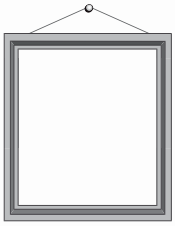
Q. Draw the line of symmetry.



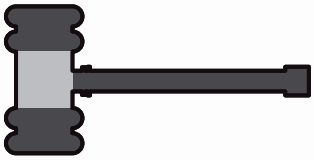
A.  Incorrect. Top half is not identical to the bottom half.

 Correct. Both halves are identical.

a) Draw the line of symmetry.



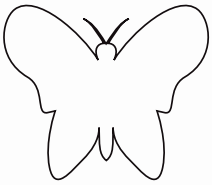
b) Draw the line of symmetry.



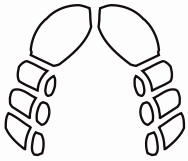
c) Draw the line of symmetry.

B

d) Draw the line of symmetry.



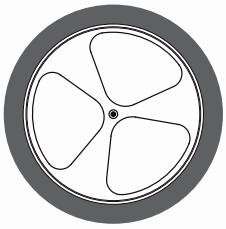
e) Draw the line of symmetry.



f) Draw the lines of symmetry.

H

g) Draw the lines of symmetry.



h) Draw the lines of symmetry.

i) Draw the lines of symmetry.

j) Draw the lines of symmetry.

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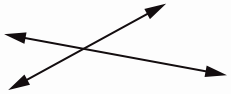
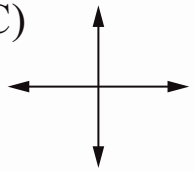
Skill 16.8 Recognising and drawing pairs of parallel and perpendicular lines.

- See Glossary.

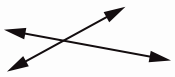
Q. Which lines are parallel?

A) 

B)

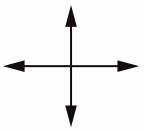
C) 

A. ***B***



The lines meet at a point.
The lines are not parallel.

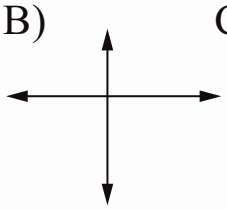
The lines never meet.
The lines are parallel.

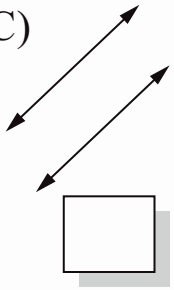


The lines meet at a point.
The lines are not parallel.

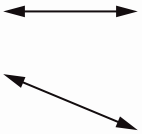
a) Which lines are perpendicular?

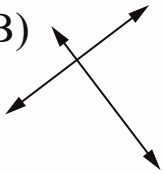
A)

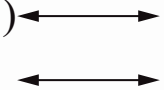
B) 

C) 

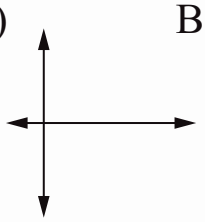
b) Which lines are parallel?

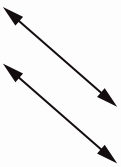
A) 

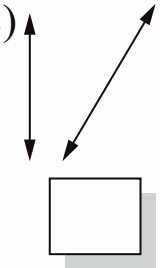
B) 

C) 

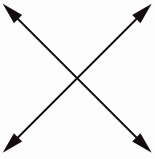
c) Which lines are perpendicular?

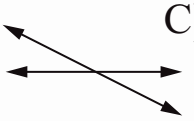
A) 

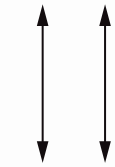
B) 

C) 

d) Which lines are parallel?

A) 

B) 

C) 

e) Draw a line parallel to this vertical line.

f) Draw a line perpendicular to this horizontal line.

g) Draw a line perpendicular to this vertical line.

h) Draw a line parallel to this horizontal line.

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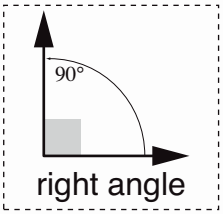
Skill 16.9 Recognising and drawing different types of angles.

To recognise a type of angle

- Draw a right angle in the same corner and on the same line as each of the given angles.
- Compare each angle to the right angle inside.

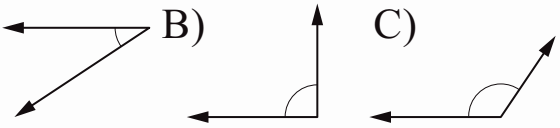


To draw a type of angle

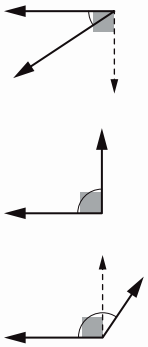
- Draw a line starting from one end of the given line.
- Draw the line according to the type of angle required (see Glossary).
- Mark the angle with a dash.

Q. Which angle is an obtuse angle?

A) B) C)



A. ***C***



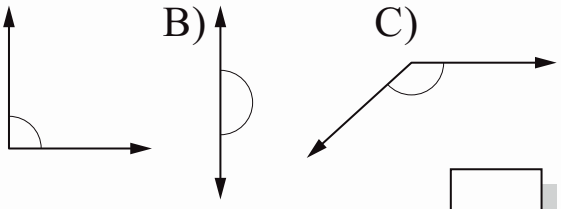
The angle is smaller than a right angle ⇒ not obtuse

The angle is equal to a right angle ⇒ not obtuse

The angle is greater than a right angle ⇒ obtuse

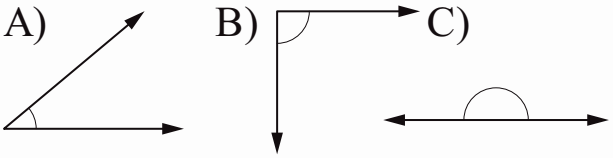
a) Which angle is a right angle?

A) B) C)



b) Which angle is a straight angle?

A) B) C)



c) Draw an obtuse angle using this line.

d) Draw an acute angle using this line.

e) Draw a straight angle using this line.

f) Draw a right angle using this line.

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Skill 16.10 Comparing the size of two angles.

- Compare the amount of turn needed to get from one straight line to another.
  Hint: The larger the amount of turn between the 2 straight lines, the larger the angle.
  The smaller the amount of turn between the 2 straight lines, the smaller the angle.

Q. On which gymnast is the angle formed by their legs smaller?

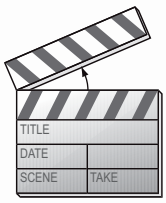
A)

B)

A. ***A***

The boy's legs show less than a half turn.
The girl's legs show a full half turn.

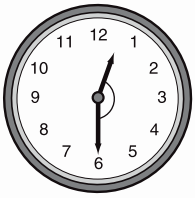
a) On which clapboard is the angle formed by the arms greater?

A) 

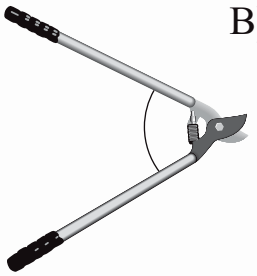
B)

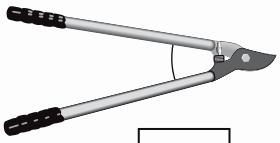
b) Which of the angles shown on the clock faces is smaller?

A)

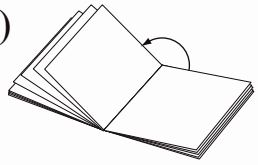
B) 

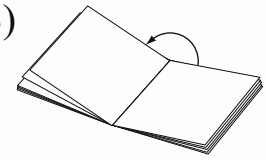
c) On which cutter is the angle formed by the arms greater?

A) 

B) 

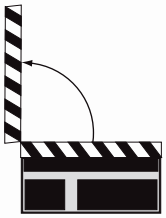
d) On which book is the angle formed by the open pages smaller?

A) 

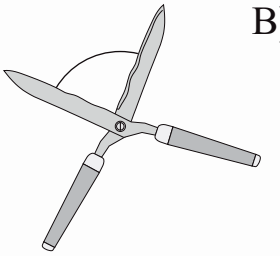
B) 

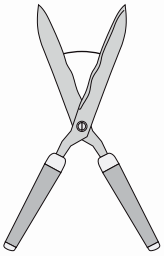
e) On which clapboard is the angle formed by the arms closer to a right angle?

A)

B) 

f) On which shears is the angle formed by the blades closer to a right angle?

A) 

B) 

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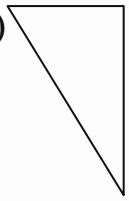
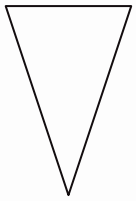
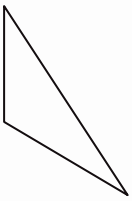
Skill 16.11 Recognising different types of triangles.

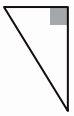
- Check the size of the angles in the triangle.

Angles	Triangle type
all acute angles	**acute-angled**
one right angle	**right-angled**
one obtuse angle	**obtuse-angled**

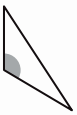
Q. Which triangle is an acute-angled triangle?

A)  B)  C) 

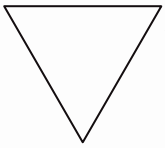
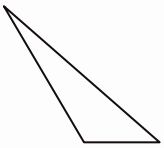
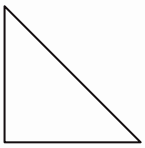
A. ***B***


One right angle
⇒ not an acute-angled triangle

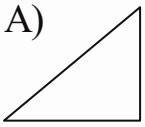
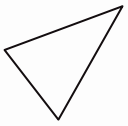
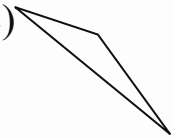
All acute angles
⇒ an acute-angled triangle


One obtuse angle
⇒ not an acute-angled triangle

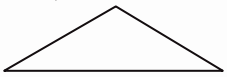
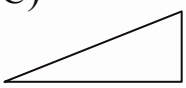
a) Which triangle is a right-angled triangle?

A)  B)  C) 

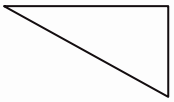
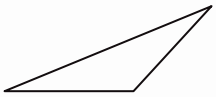
b) Which triangle is an obtuse-angled triangle?

A)  B)  C) 

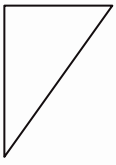
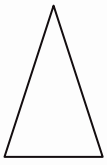
c) Which triangle is an acute-angled triangle?

A) B)  C) 

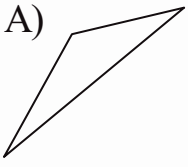
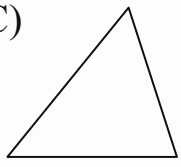
d) Which triangle is an obtuse-angled triangle?

A)  B)  C)

e) Which triangle is a right-angled triangle?

A)  B) C) 

f) Which triangle is a right-angled triangle?

A)  B) C) 

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Skill 16.12 Recognising properties of triangles and quadrilaterals.

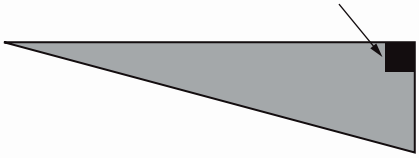
- Look for equal sides or equal angles.
- Look at the types of angles inside the triangle.
- Look at the types of lines inside the triangle or quadrilateral (parallel, perpendicular, symmetry).

Q. This triangle has:

A) one line of symmetry
B) two parallel sides
C) all sides of equal length
D) one right angle

A. ***D***

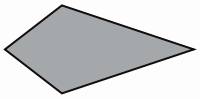
A, B and C are not true.
D is the correct answer, because the triangle has a right angle.



a) This square has:

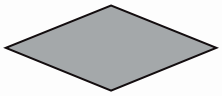
A) one obtuse angle
B) no line of symmetry
C) all sides of equal length
D) two acute angles

b) This kite has:



A) two parallel sides
B) one line of symmetry
C) two perpendicular sides
D) all sides of equal length

c) This rhombus has:



A) one right angle
B) two perpendicular sides
C) all angles of equal length
D) two lines of symmetry

d) This trapezium has:

A) one line of symmetry
B) two perpendicular sides
C) two parallel sides
D) all sides of equal length

e) This rectangle has:

A) opposite sides of equal length
B) one obtuse angle
C) two acute angles
D) four lines of symmetry

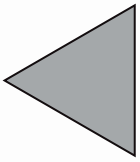
f) This parallelogram has:

A) two perpendicular sides
B) one line of symmetry
C) opposite sides parallel
D) one right angle

g) This isosceles triangle has:

A) two perpendicular sides
B) one obtuse angle
C) two sides of equal length
D) two lines of symmetry

h) This equilateral triangle has:



A) two lines of symmetry
B) all sides of equal length
C) one right angle
D) two parallel sides

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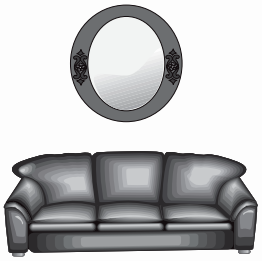
17. [Location]

Skill 17.1 Naming the position of objects (under, outside, next to, etc.) (1).

Orange 1 1 2 2 3 3 4 4
Rose 1 1 2 2 3 3 4 4

- See Glossary.

Q. Is the mirror 'above' or 'below' the couch?



A. ***above***

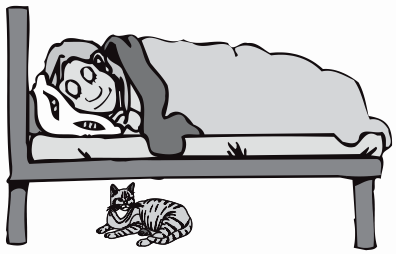
The mirror is over the top of the couch.

a) Is the foot stool 'in front of' or 'behind' the chair?

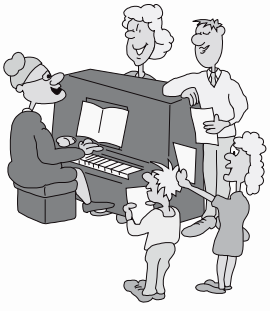
b) Is the bear 'inside' or 'outside' the box?

c) Is the tight-rope walker 'on' or 'under' the rope?

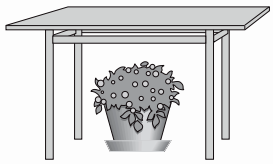
d) Is the cat 'on' or 'under' the bed?



e) Is the man 'in front of' or 'behind' the piano?



f) Is the pot plant 'above' or 'below' the table?



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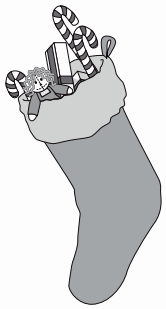
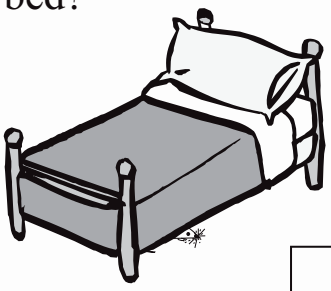
g) Is the rabbit ‘on’ or ‘under’ the present?

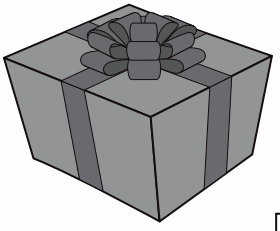
h) Are the gifts ‘inside’ or ‘outside’ the stocking?



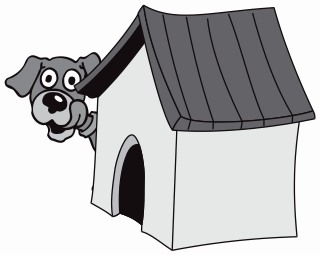
i) Is the mouse ‘on’ or ‘under’ the bed?



j) Is the ribbon on the ‘inside’ or the ‘outside’ of the gift?

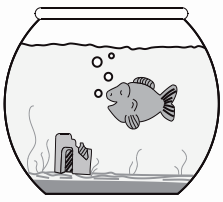


k) Is the dog ‘in front of’ or ‘behind’ his kennel?



l) Is the hurdler ‘above’ or ‘below’ the hurdle?

m) Is the fish ‘inside’ or ‘outside’ the fish bowl?



n) Is the elephant ‘on’ or ‘under’ the tub?

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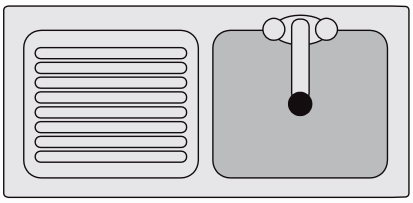
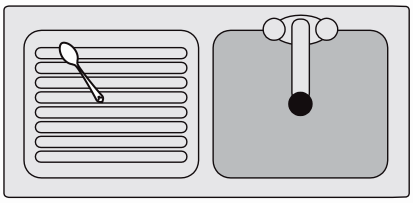
- See Glossary.

Q. Draw a spoon outside the sink.

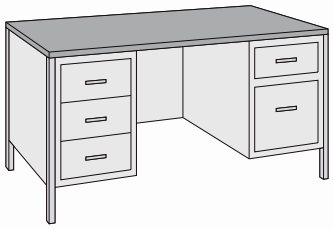


A.



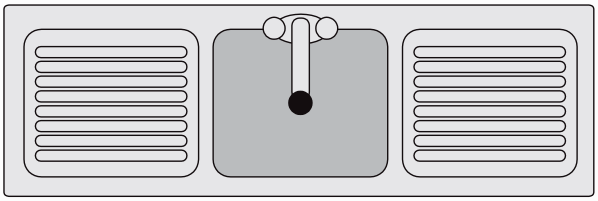
a) Draw a paper clip next to this paper clip.

b) Draw a lamp on the desk.

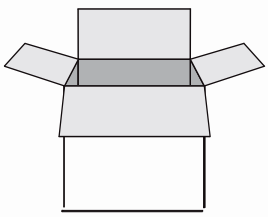


c) Draw a parachute above the boy.

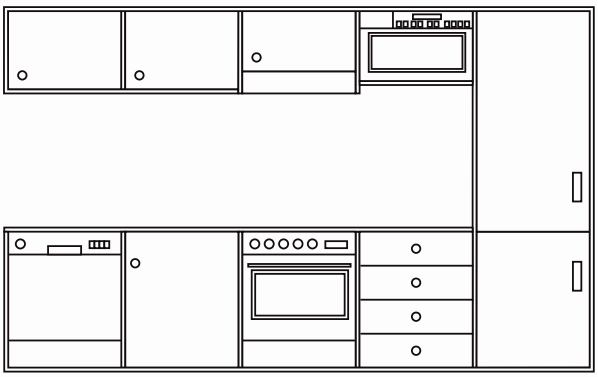
d) Draw a dinner plate inside the sink.



e) Draw a kitten inside the box.



f) Draw a vase of flowers between the dishwasher and the stove.



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Skill 17.3 Naming and drawing objects in the positions left, right and middle (1).

- See Glossary.

Q. Whose image is to the left of Fidel Castro? [As seen from your perspective.]

Adolf Hitler

Fidel Castro

Yasser Arafat

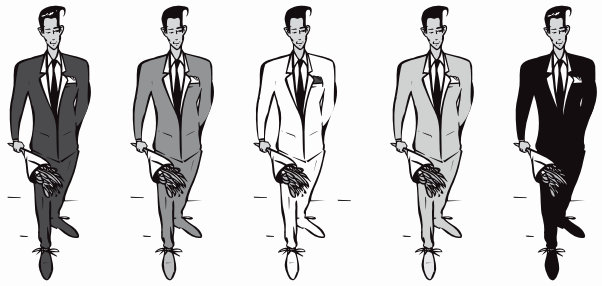
A. ***Adolf Hitler***

Adolf Hitler
left

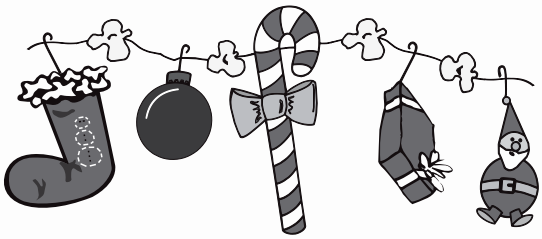
Fidel Castro
middle

Yasser Arafat
right

a) What colour suit is in the middle?


charcoal dark grey white light grey black

b) Which decoration is to the right of the Christmas bauble? [As seen from your perspective.]



c) Whose image is to the right of Stan Laurel? [As seen from your perspective.]

Charlie Chaplin

Stan Laurel

Oliver Hardy

d) Whose image is to the right of Herb Elliott? [As seen from your perspective.]

Herb Elliott

John Landy

Ron Clarke

e) Whose image is in the middle?

Elvis Presley

Michael Jackson

John Lennon

f) Which plant is in the middle?

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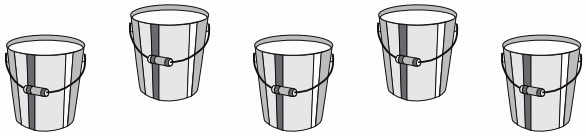
Skill 17.3 Naming and drawing objects in the positions left, right and middle (2).

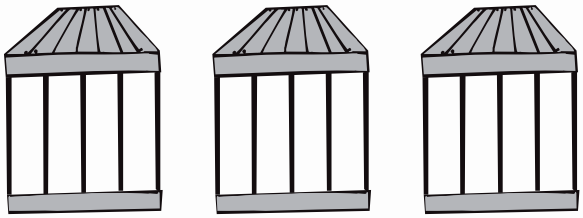
g) Looking at the pictures, who is to the left of Horace?

h) Looking at the tray, draw another muffin to the right of the existing muffin.

i) Looking at the buckets, draw a mop handle in the bucket on the right.

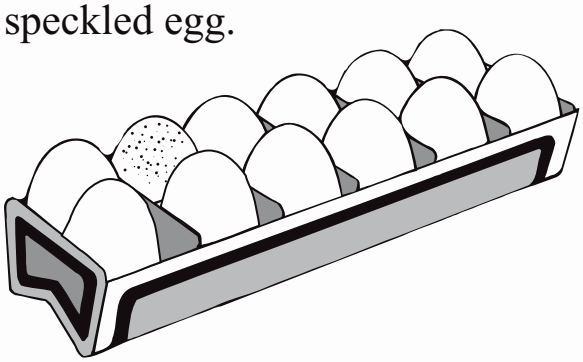


j) Draw a lion in the middle cage.

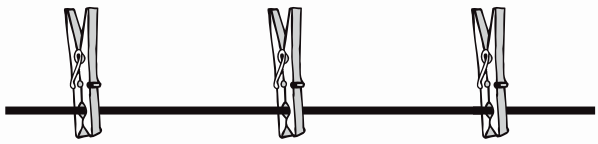


k) Looking at the trollies, draw a bag of groceries in the trolley on the right.

l) Looking at the eggs, draw a hat on the egg to the left of the speckled egg.



m) Looking at the clothes line, draw a hankerchief hanging from the peg on the right.



n) Looking at the snowmen, draw a hat on the snowman on the left.

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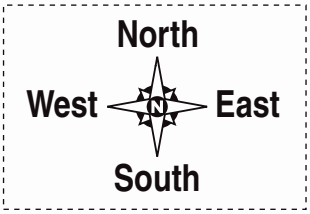
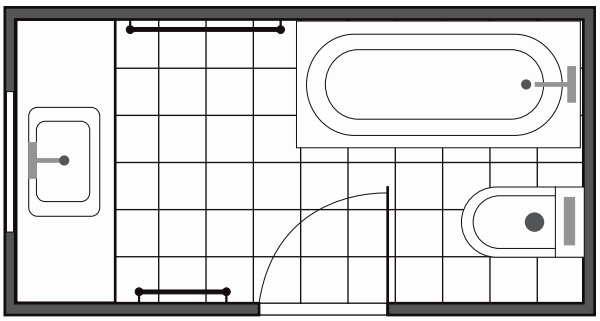
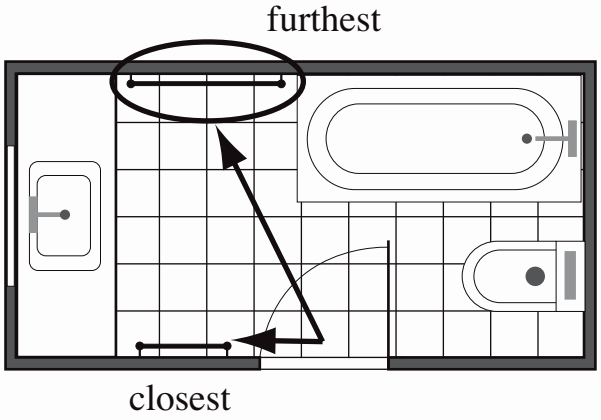
- See Glossary.



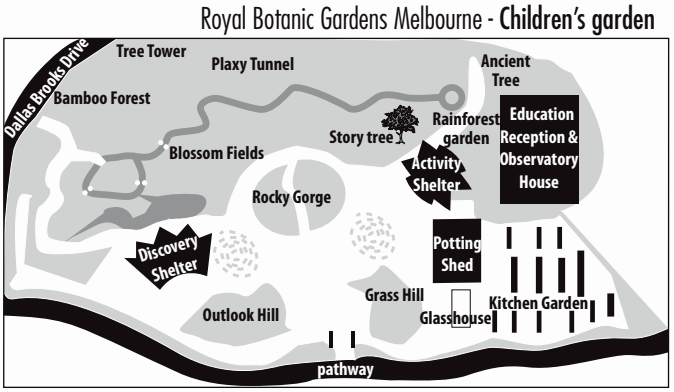
Q. Circle the towel rail which is furthest from the door.



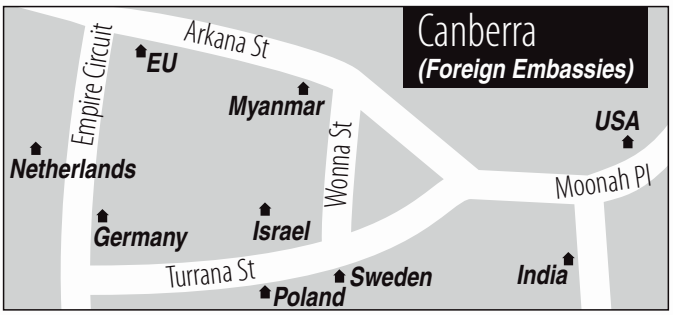
A.



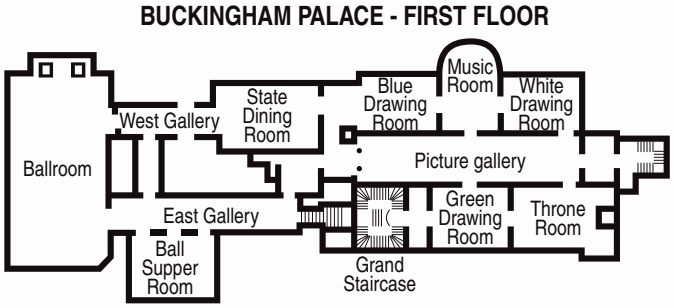
a) Which building is closest to the Story tree?



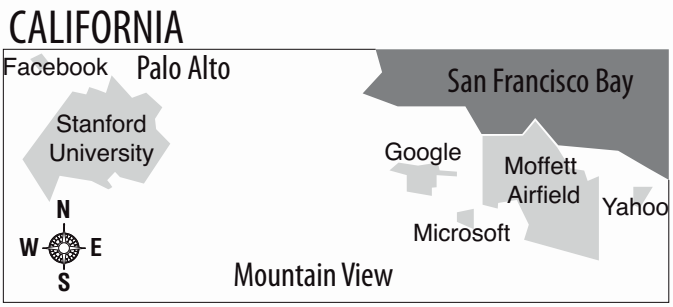
b) Which embassy is at the corner of Arkana St and Wonna St?



c) Which room is furthest from the Throne Room?



d) Which computer company is to the east of Moffett Airfield?



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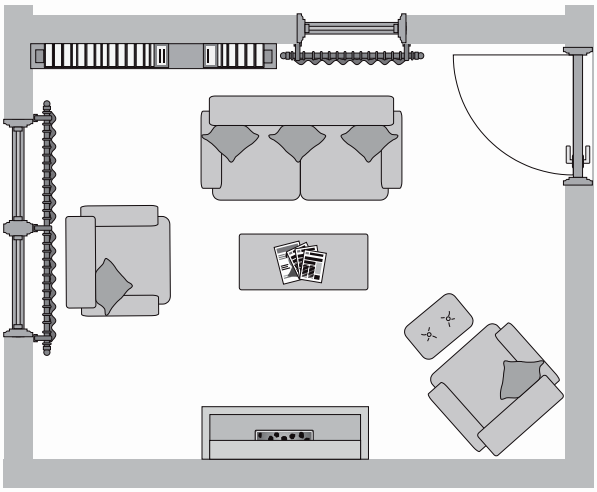
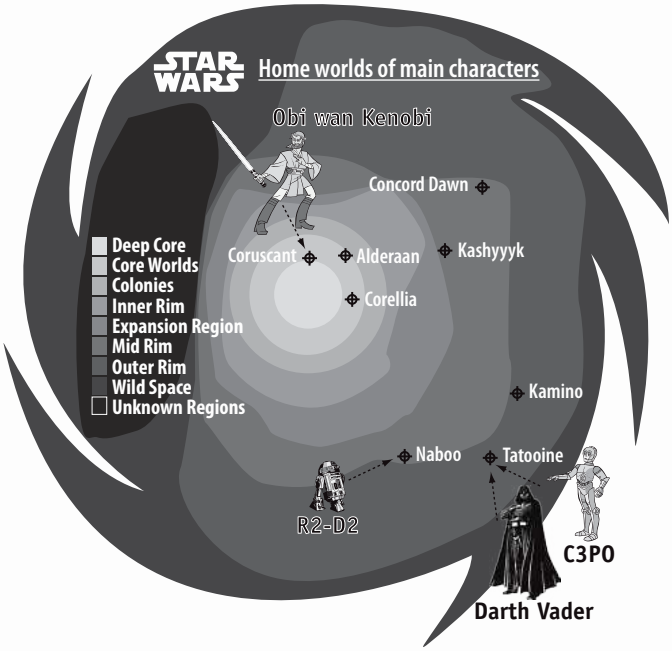
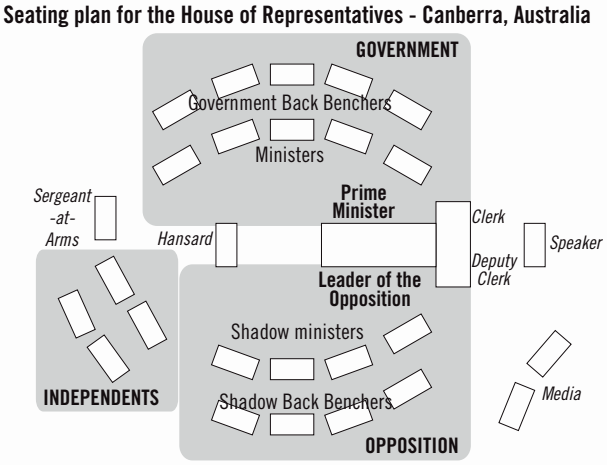
e) Which piece of furniture is between the couch and the fire?



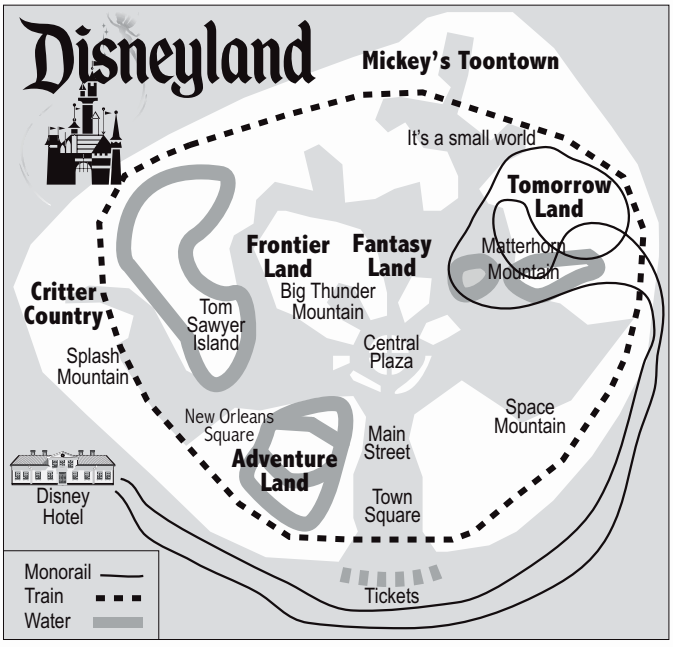
f) Who has their home world between Coruscant and Tatooine?



g) Who sits opposite the Leader of the Opposition?



h) Which land do you spend most time riding over on the monorail?



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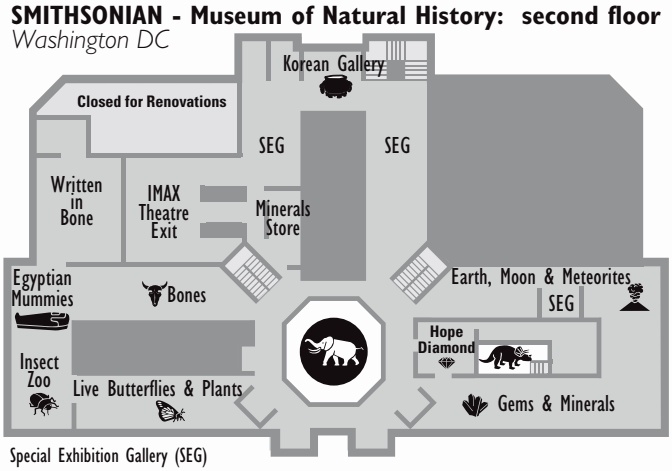
i) Which soccer player was born between Brasilia and Rio de Janeiro?

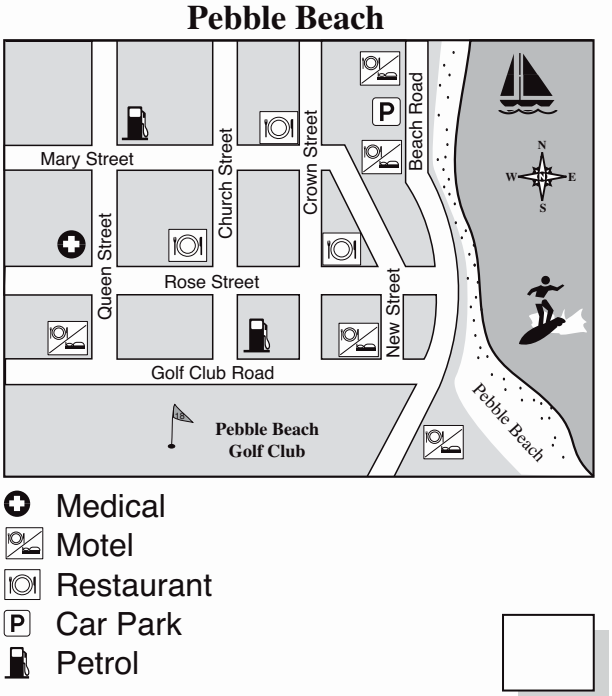
j) Which section of the museum is between Written in Bone and Insect Zoo?



k) Which ocean is to the west of South Africa?

l) As you walk from the beach along Golf Club Road, in which direction is the Golf Club?

A) right
B) left
C) straight ahead



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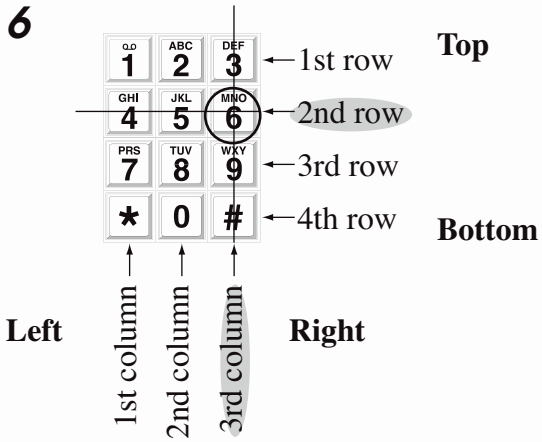
Skill 17.5 Identifying the location of objects using columns and rows (1).

Hint: Columns go up and down (vertically).
Rows go across (horizontally).

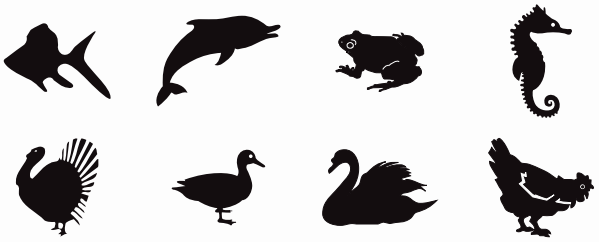
- Count the number of columns, from the left or the right (as asked).
- Draw a vertical line through the column.
- Count the number of rows, from the top or the bottom (as asked).
- Draw a horizontal line through the row.
- Locate the object where the two lines meet.

Q. Which number is in the third column from the left and on the second row from the top?

A. *6*

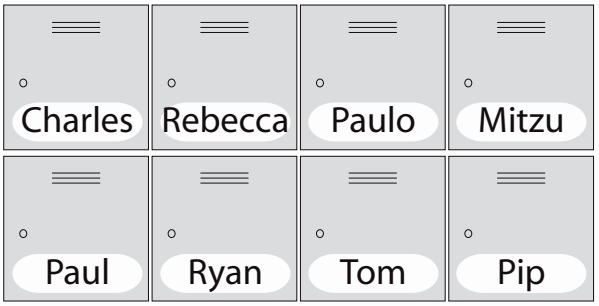


a) Which animal is in the first column from the left and on the top row?

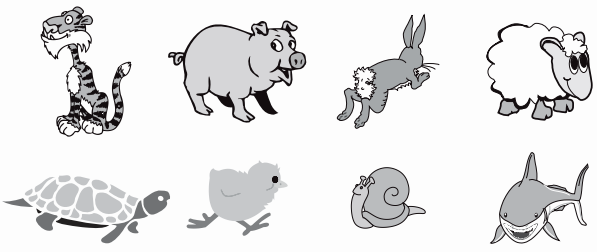


b) Which number is in the first column from the right and on the third row from the top?

c) Who has the locker in the second column from the left and on the top row?



d) Which animal is in the third column from the left and on the bottom row?



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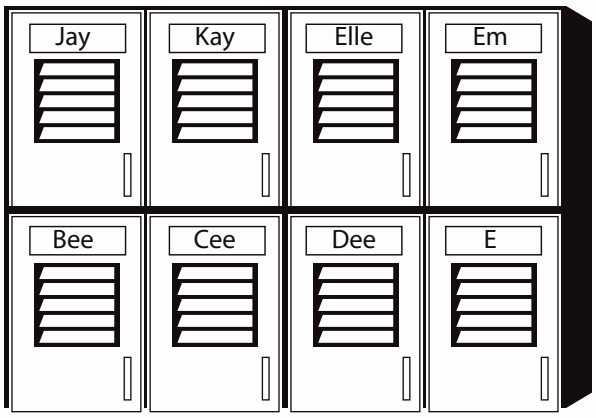
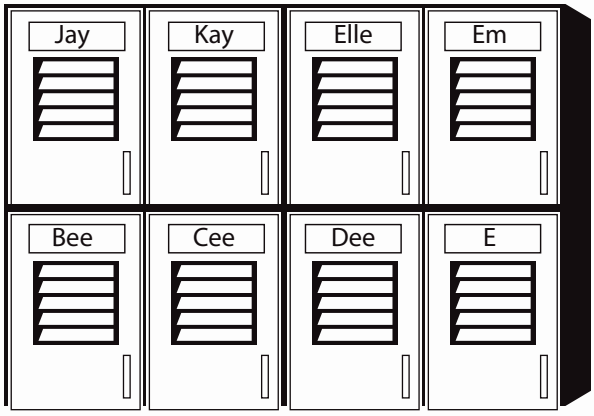
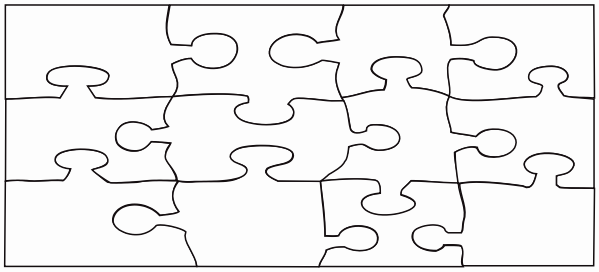
e) Who has the locker in the first column from the left and on the top row?



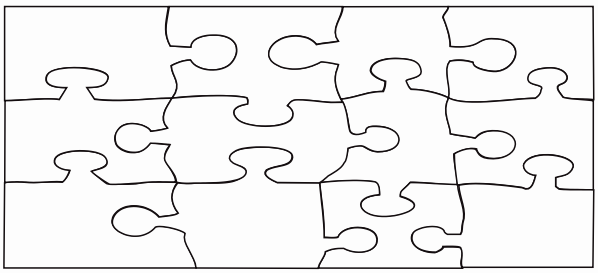
f) Who has the locker in the third column from the right and on the bottom row?



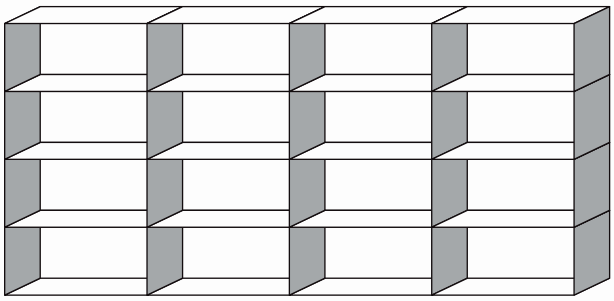
g) Draw a face in the jigsaw piece in the 1st column from the left, on the top row.



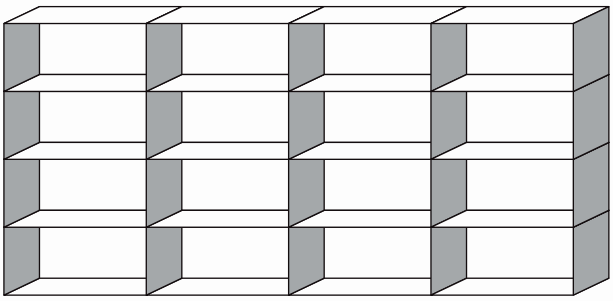
h) Draw a face in the jigsaw piece in the 4th column from the left, on the bottom row.



i) Draw a pair of glasses in the locker in the 2nd column from the left, 2nd row from the top.



j) Draw a yoyo in the locker in the 2nd column from the right, 3rd row from the bottom.



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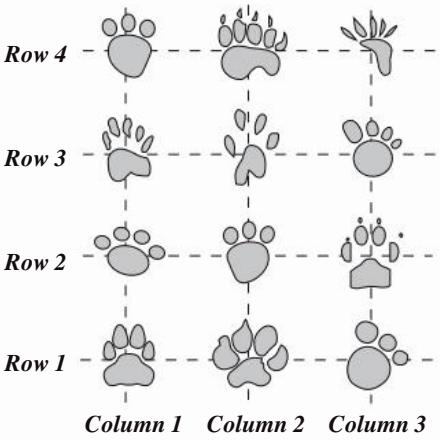
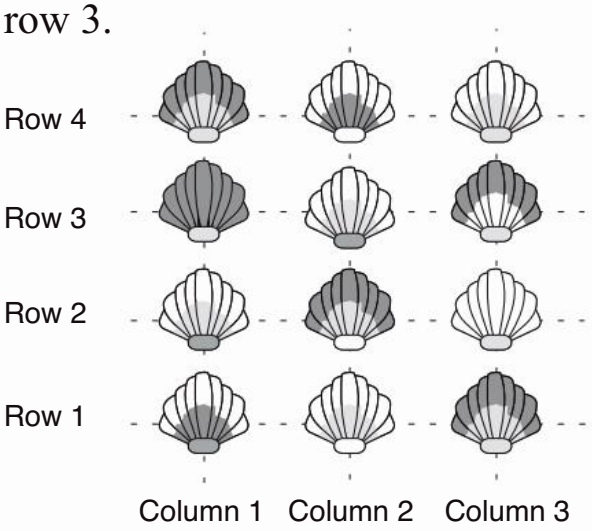
k) Which number is in the second column and on the fourth row from the bottom of this keypad?

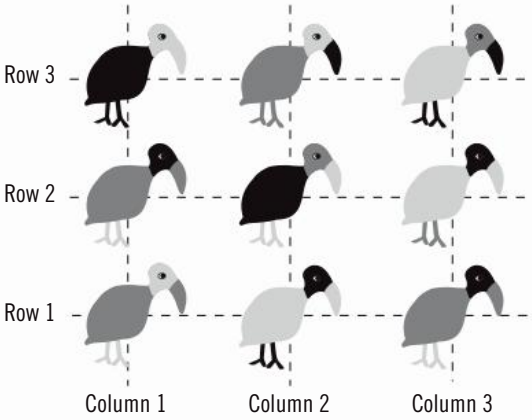
l) Circle the paw which is the pair of the paw in column 1, row 4.



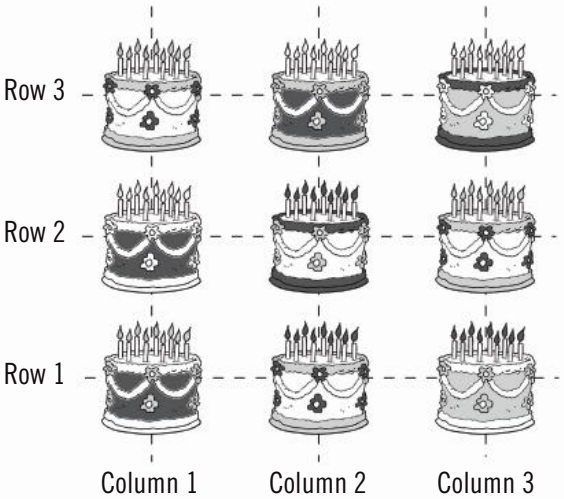
m) Circle the sea shell which is identical to the one in column 2, row 3.



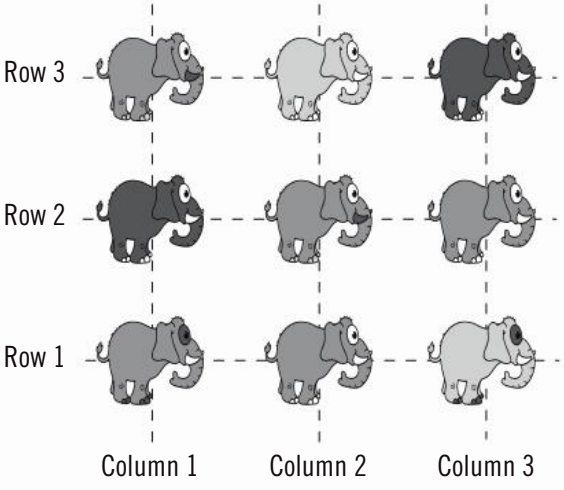
n) Circle the bird which is the same as the one in column 1, row 2.



o) Circle the cake which is the same as the one in column 1, row 3.



p) Circle the elephant which is the same as the one in column 3, row 2.



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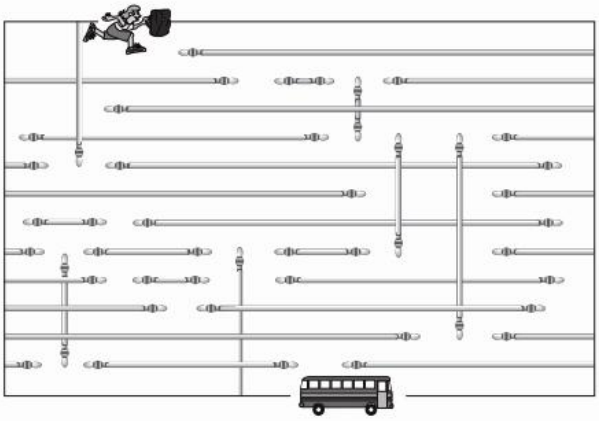
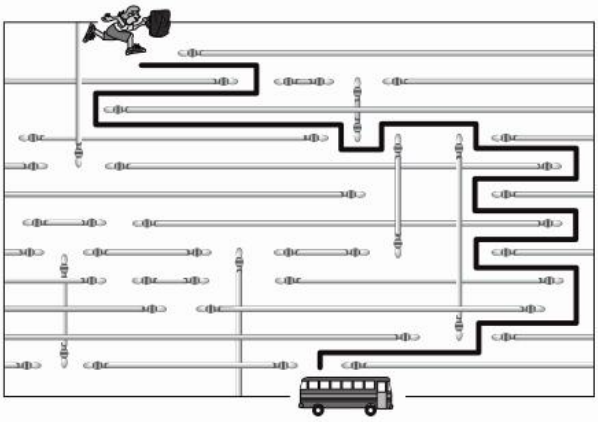
On a maze
- Use trial and error.
- Avoid dead ends.

On a grid
- Work out the direction.
- Count the number of spaces.
- Repeat for each step.

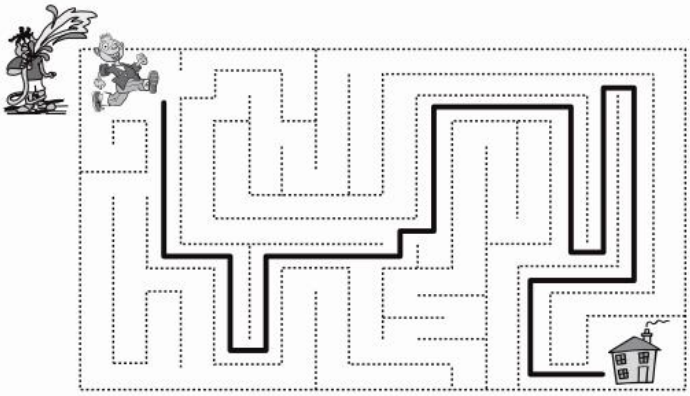
Q. Draw a path through the maze so that Naomi can catch the bus.



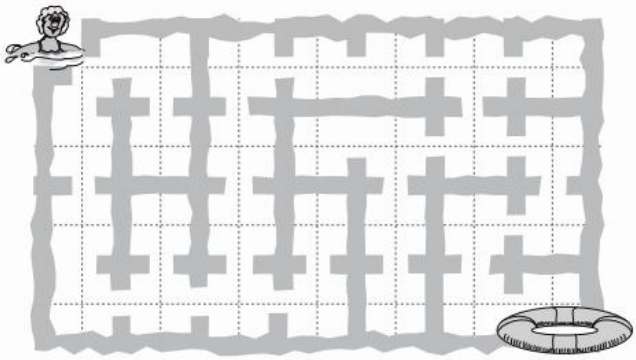
A.



a) Draw a path through the maze so that Harry can escape the water fight and get home.

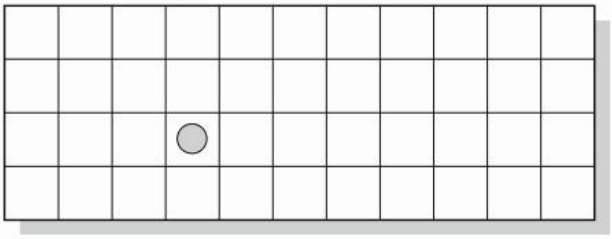


b) Draw a path through the maze so that Maisey can reach the lifebuoy.



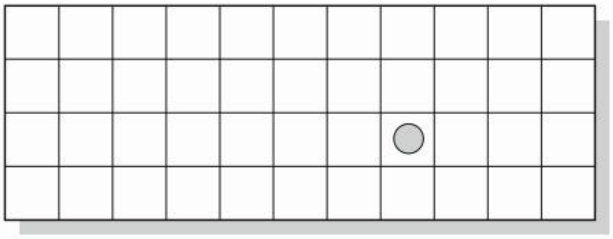
c) Draw the path of the counter by moving it:

5 right, 1 up, 2 left



d) Draw the path of the counter by moving it:

3 left, 2 up, 1 right



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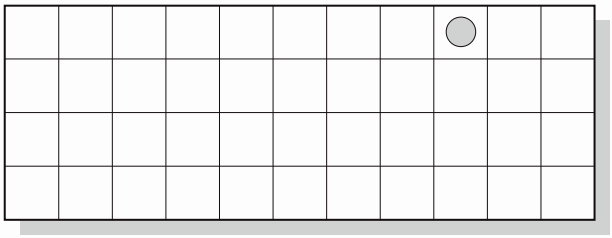
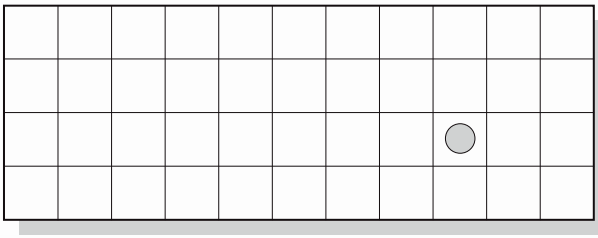
e) Draw the path of the counter by moving it:

2 down, 3 left, 2 up, 4 left

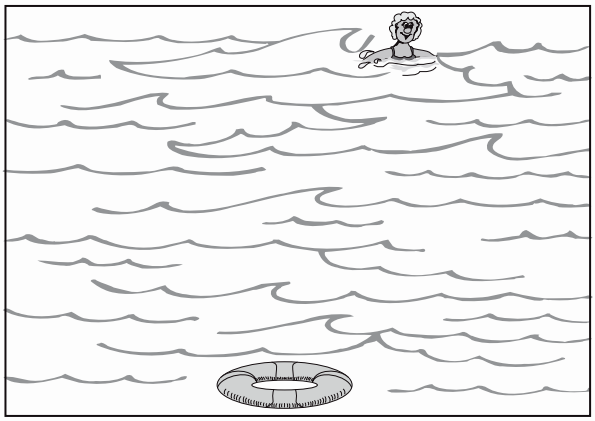


f) Draw the path of the counter by moving it:

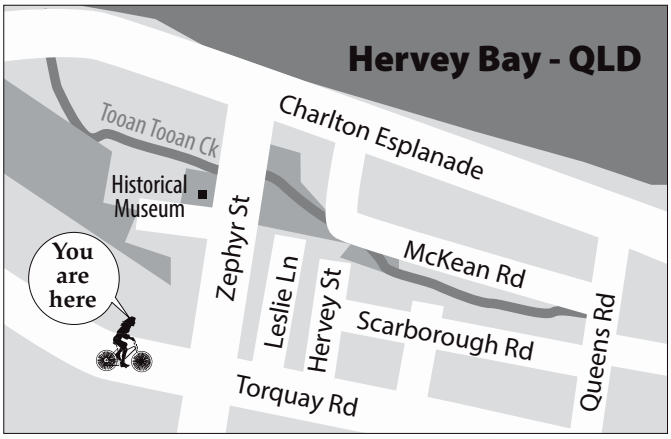
1 up, 4 left, 2 down, 4 left



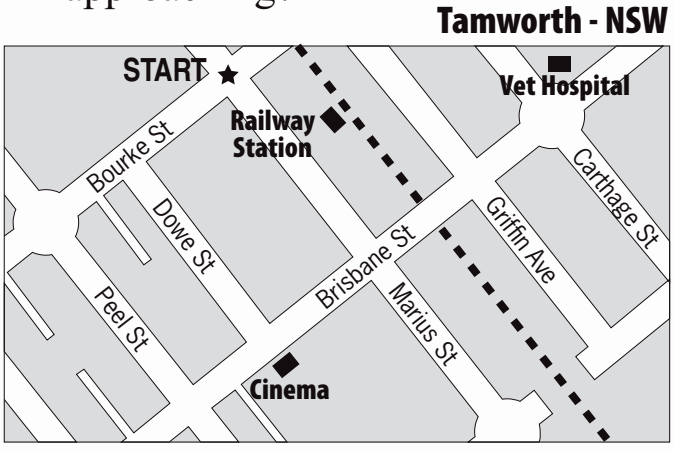
g) Draw a path through the wave maze so that the swimmer can reach the lifebuoy.



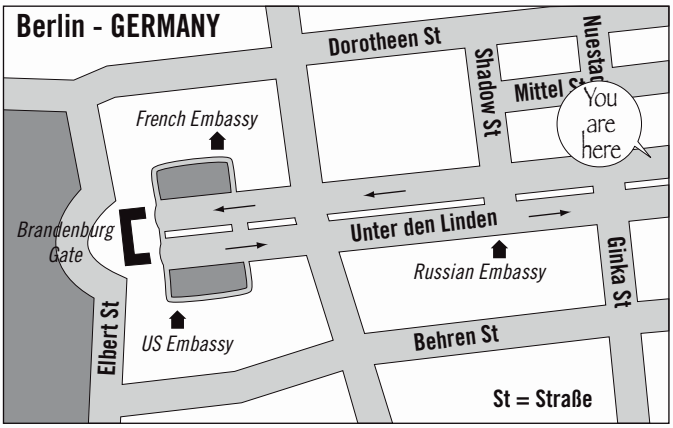
h) You ride along Torquay Rd towards Queens Rd. What is the third street on your left?



i) From the START you walk along Bourke St and turn left into Dowe St. Which landmark are you approaching?



j) You drive along the Unter den Linden to the Brandenburg Gate. How many streets do you pass on your right?



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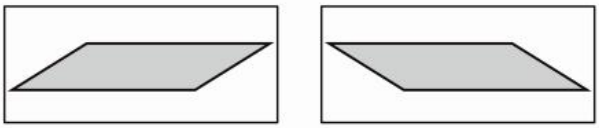
Skill 17.7 Describing the transformation of an object.

- Compare the second image to the first image.
- See Glossary.

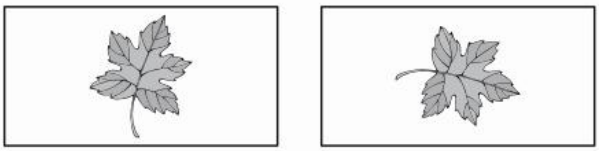
Q. Has this shape been moved by a flip, a slide or a turn?



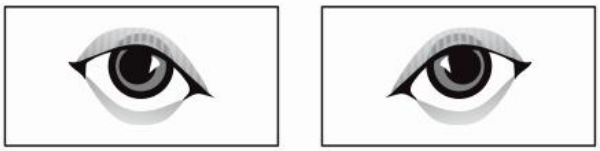
A. ***flip***

The shape has been moved like a reflection in the mirror or a flip.

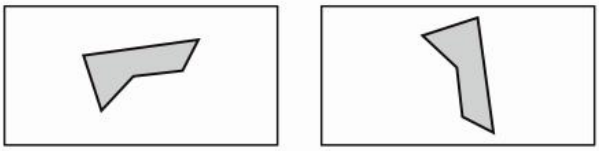
a) Has this leaf been moved by a flip, a slide or a turn?



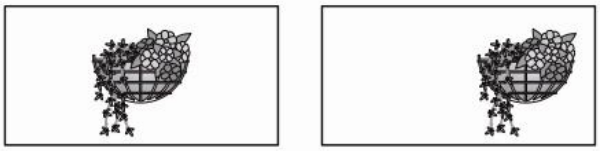
b) Has this eye been moved by a a flip, a slide or a turn?



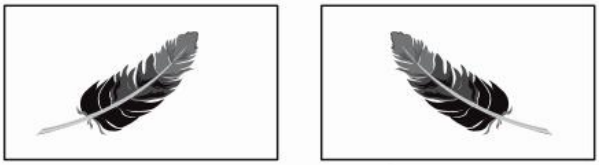
c) Has this shape been moved by a flip, a slide or a turn?



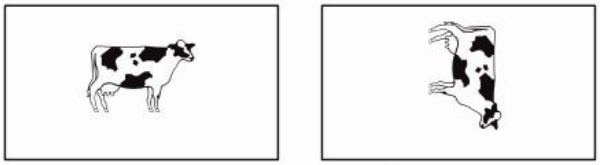
d) Has this hanging basket been moved by a flip, a slide or a turn?



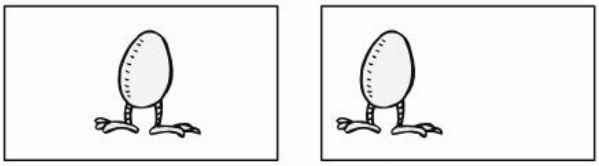
e) Has this feather been moved by a flip, a slide or a turn?



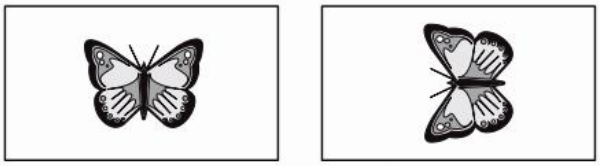
f) Has this cow been moved by a flip, a slide or a turn?



g) Has this egg been moved by a flip, a slide or a turn?



h) Has this butterfly been moved by a flip, a slide or a turn?



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Skill 17.8 Drawing the transformation of an object on a grid (1).

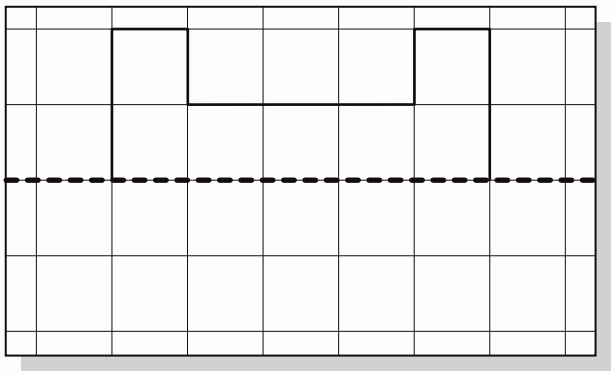
To draw a shape moved by a flip

- Mark every vertex on the shape.
- From each vertex move the same distance on the other side of the dashed line.
- Draw a point.
- Join the points.

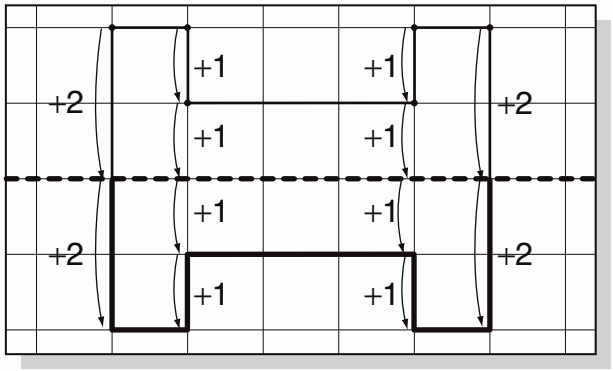
To draw a shape moved by a slide

- Mark every vertex on the shape.
- From each vertex move across the required number of units.
- Draw a point.
- Join the points.

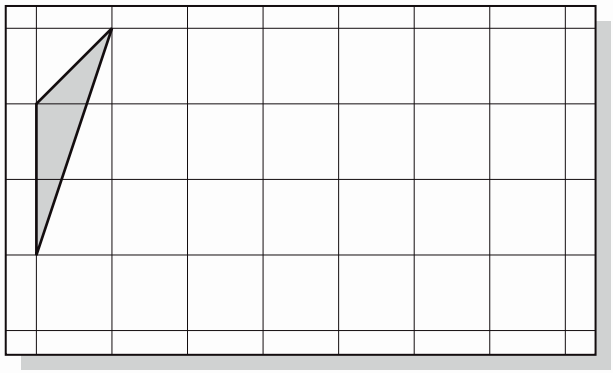
Q. Draw the reflection of this diagram flipped at the dashed line.



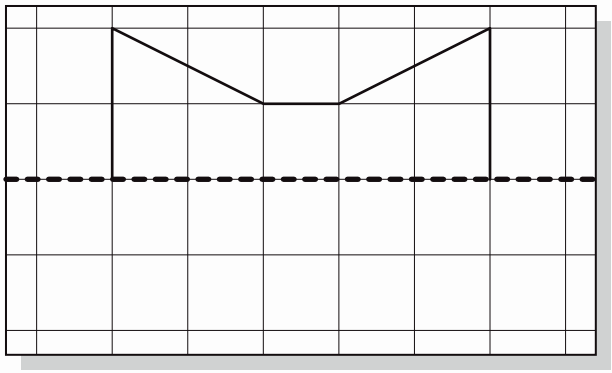
A.



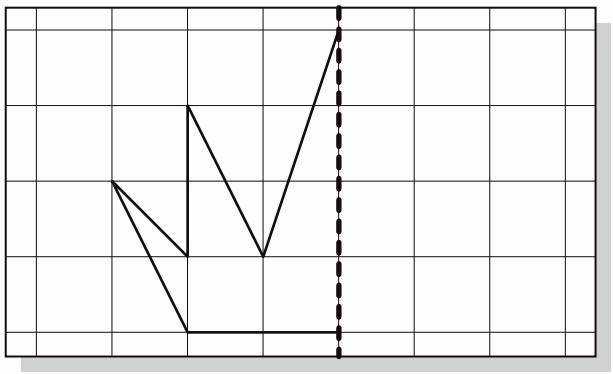
a) Redraw this diagram after sliding it 3 units to the right.



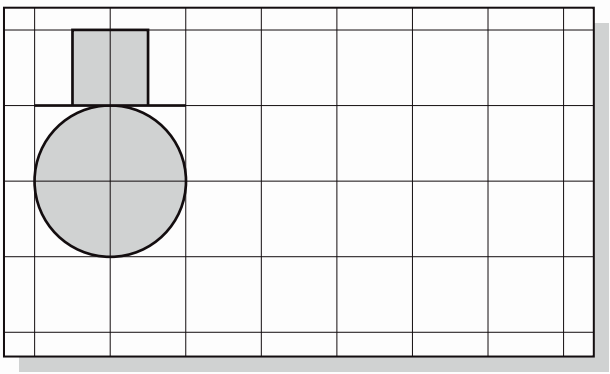
b) Draw the reflection of this diagram flipped at the dashed line.



c) Draw the reflection of this diagram flipped at the dashed line.



d) Redraw this diagram after sliding it 4 units to the right.



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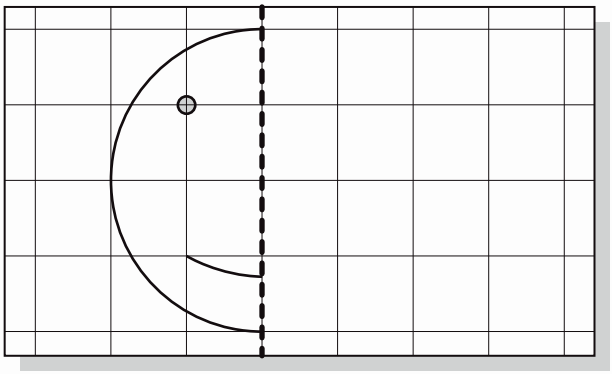
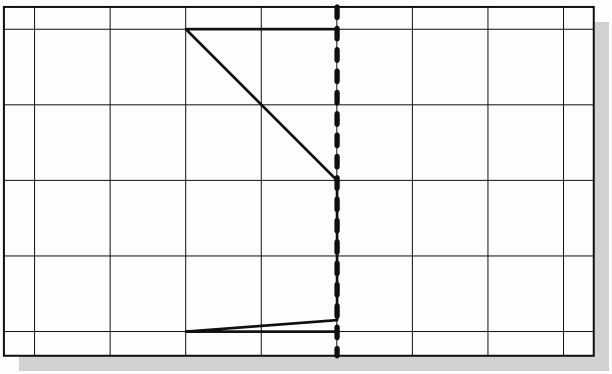
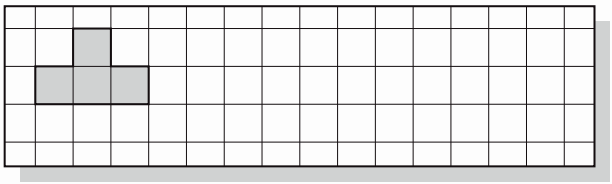
e) Draw the reflection of this diagram flipped at the dashed line.



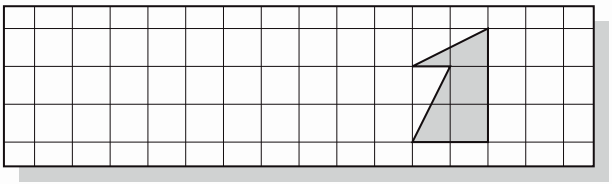
f) Draw the reflection of this diagram flipped at the dashed line.



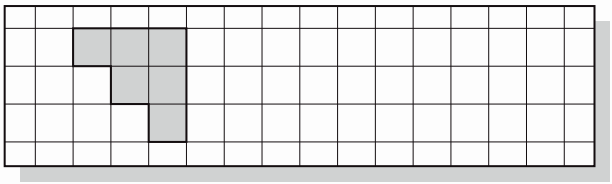
g) Redraw this diagram after sliding it 9 units to the right.



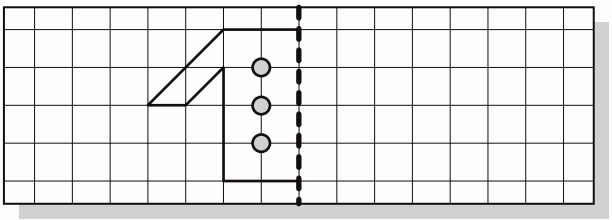
h) Redraw this diagram after sliding it 6 units to the left.



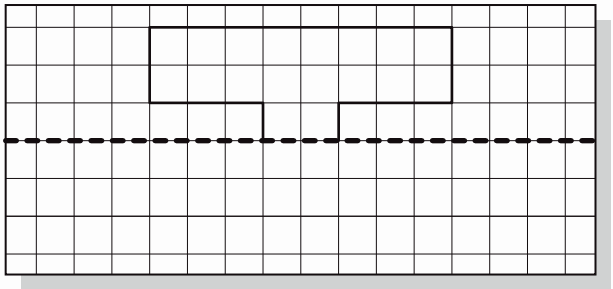
i) Redraw this diagram after sliding it 8 units to the right.



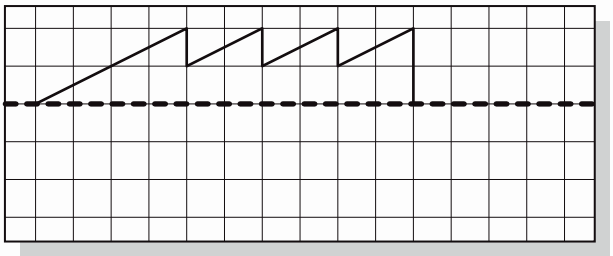
j) Draw the reflection of this diagram flipped at the dashed line.



k) Draw the reflection of this diagram flipped at the dashed line.



l) Draw the reflection of this diagram flipped at the dashed line.



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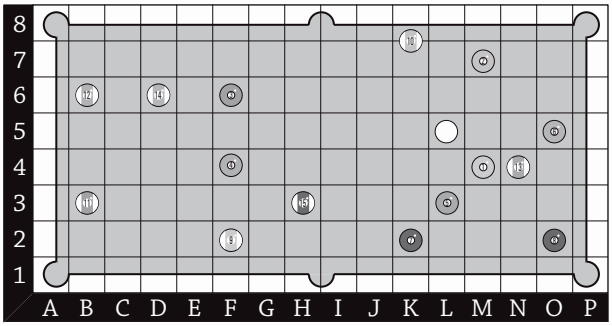
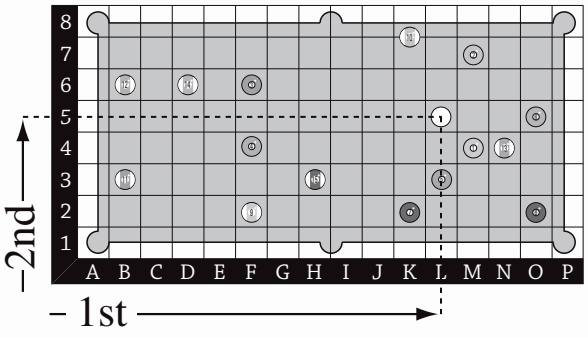
Skill 17.9 Describing location by using regions on a grid (e.g. A3) (1).

- Read across to find the letter that matches the column you need.
- Then read up to find the number that matches the row you need. The grid space that is common to both column and row marks the position you are locating.

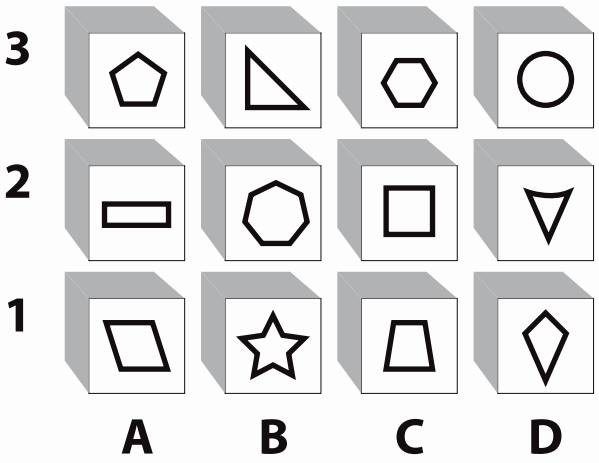
Q. Which ball is located at position L5?



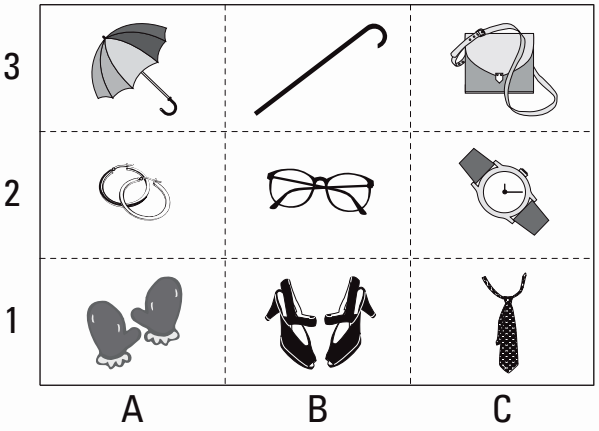
A. ***white ball***



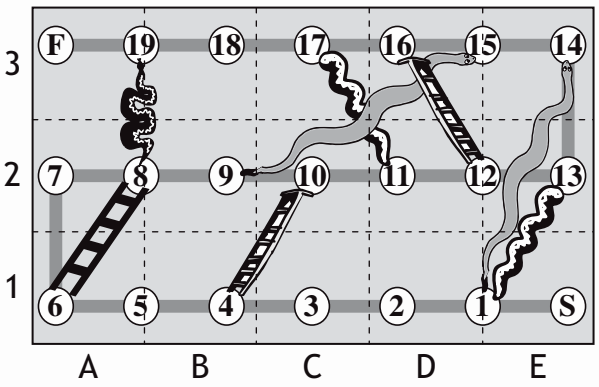
a) What is located at position A2?



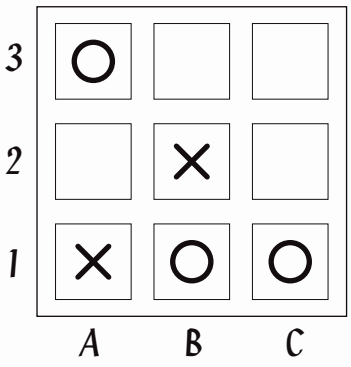
b) What is located at position C1?



c) Is there a snake or a ladder at position E3?



d) What is located at position B2?



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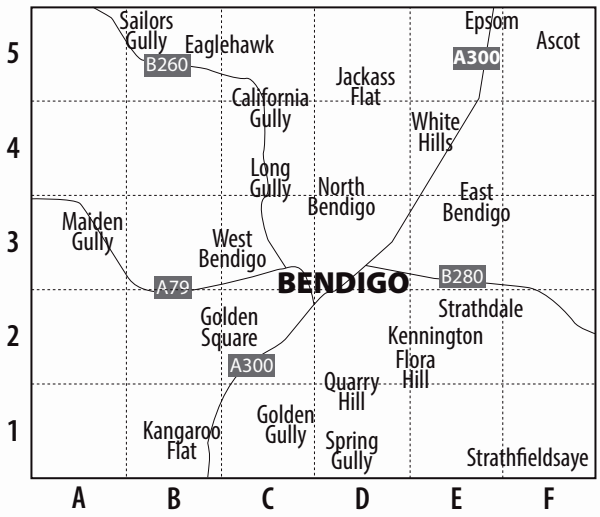
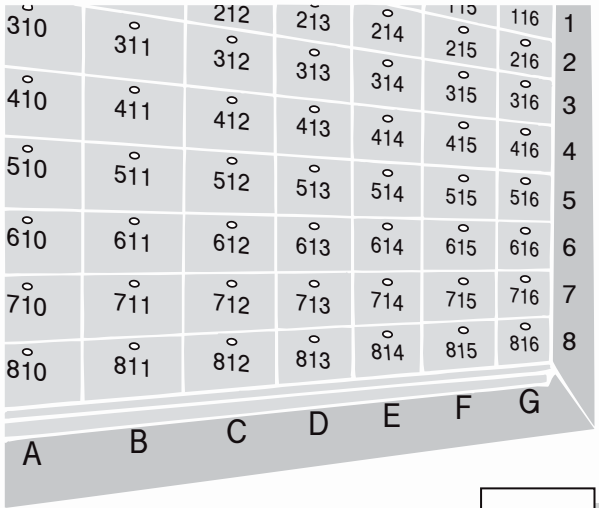
e) Which country is located at position D5?

f) Which suburb of Bendigo is located at position A3?

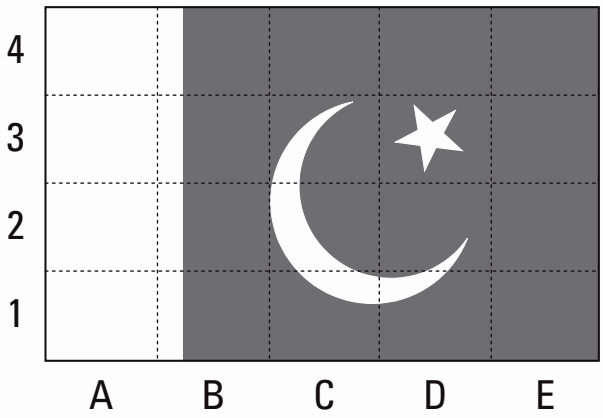


g) What is the number of the locker located at position F4?



h) In which position is the star on the flag of Pakistan?

A) B2 B) E4 C) A3 D) D3



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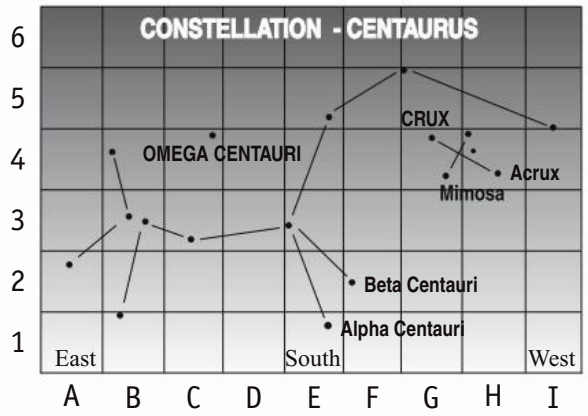
i) Which of these locations has a star in it?

A) B1 B) C2 C) E1 D) D3

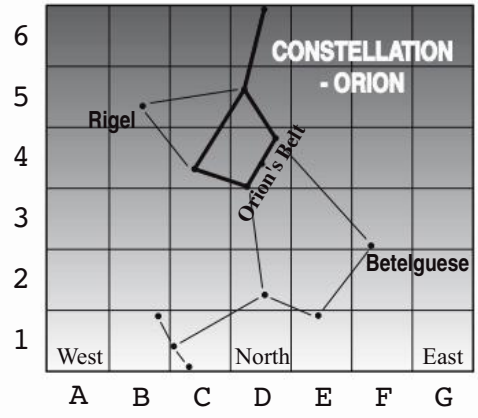
j) In which position is 'Alpha Centauri'?

A) C3 B) E1 C) H4 D) B3



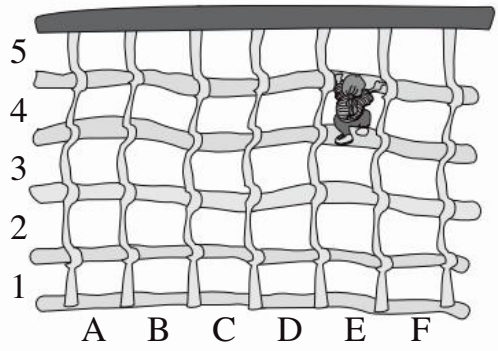
k) In which position is 'Rigel'?

A) C1 B) B5 C) D4 D) F3



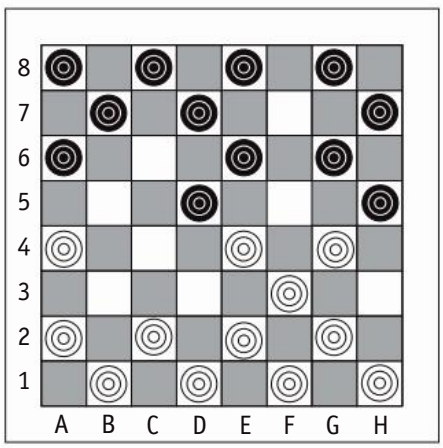
l) In which position is the climber?

A) F4 B) C2 C) E4 D) B5



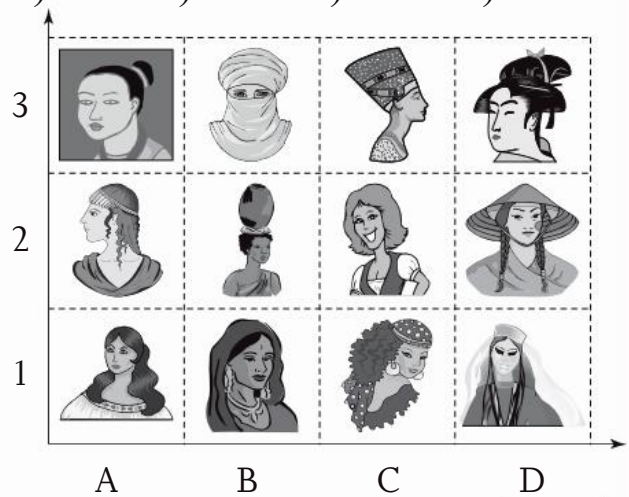
m) Which of these locations has an empty white square in it?

A) G8 B) C4 C) F4 D) C2



n) In which position is the Japanese woman?

A) D2 B) C3 C) A1 D) D3



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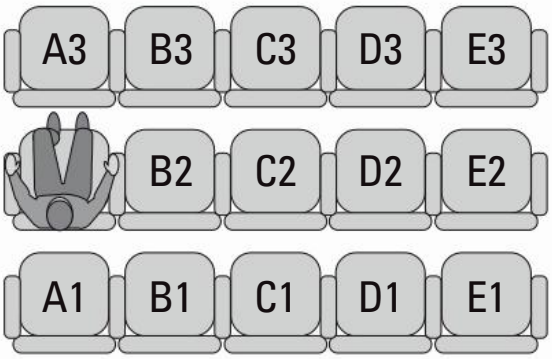
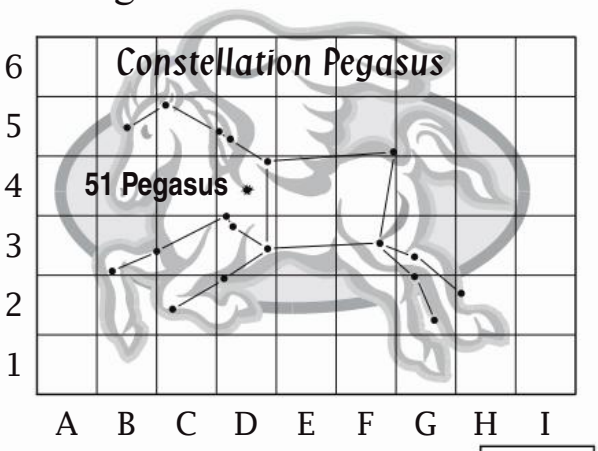
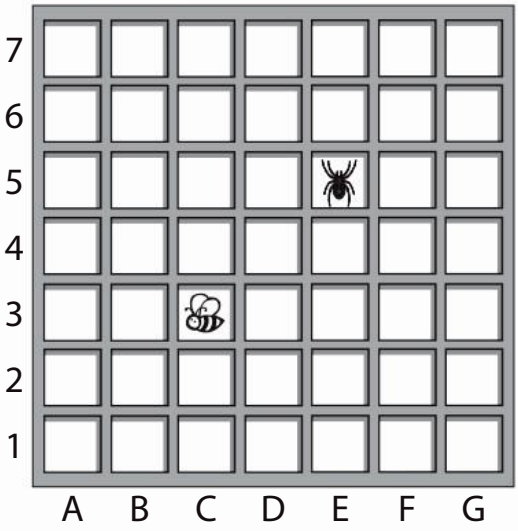
o) In which seat is the man sitting?



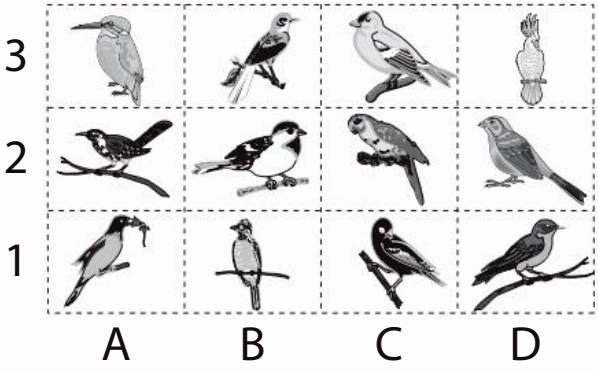
p) What is the position of the star '51 Pegasus'?



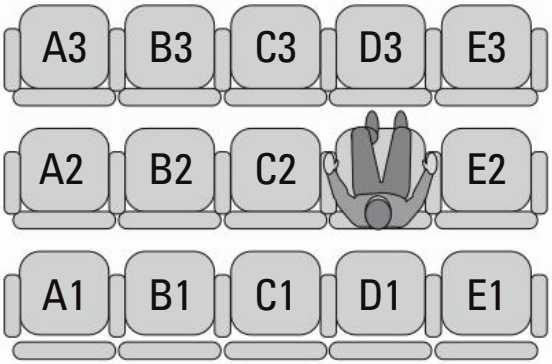
q) What is the position of the spider?



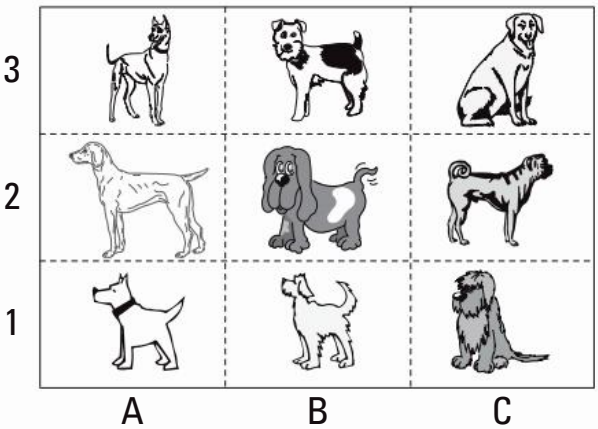
r) What is the position of the kookaburra ( )?



s) In which seat is the man sitting?



t) What is the position of the labrador ( )?



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18. [Statistics / Probability]

Skill 18.1 Interpreting picture graphs using one-to-one correspondence.

- Find the value of each picture by checking the key or scale.
- Count the number of pictures in the row or column as asked by the question.

Q. How many years does an engineering degree take?

Years for degree

Arts	
Medicine	
Science	
Engineering	

Each = 1 year

A. ***4***

Each = 1 year

The scale is 1 picture = 1 year

Arts	
Medicine	
Science	
Engineering	1 2 3 4

There are 4 pictures in the engineering row.
4 pictures = 4 years

a) How many eyes does a bee have?

Number of Eyes

Bee	
Fly	
Wasp	

Key: = 1 eyes

b) How many main islands make up New Zealand?

Countries - Number of main islands

Australia	New Zealand	Japan	Samoa

Each = 1 island

c) Which sport has a goal worth 6 points?

✔ = 1 goal

Value of a goal

Rugby Union (place kick)	Field Hockey	Soccer	Rugby League (place kick)	Australian Rules Football
✔ ✔ ✔	✔	✔	✔ ✔	✔ ✔ ✔ ✔ ✔ ✔

d) Which flower has 3 petals?

Flower Petals

Key: = 1 petal

Iris	Daffodil	Rose	Buttercup

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Skill 18.2 Recognising tally marks.

- Count or draw one dash for one value.
- Draw four dashes and a crossways dash to represent 5. Counting by 5s helps.

|	= 1
||	= 2
|||	= 3
||||	= 4
𝍸	= 5

Q. Use tally marks (|) to show the number 12.

A. 𝍸 𝍸 ||

a) What number is shown by the tally marks?

|||| 4

b) What number is shown by the tally marks?

𝍸 ☐

c) What number is shown by the tally marks?

𝍸 |||| ☐

d) What number is shown by the tally marks?

𝍸 𝍸 ||| ☐

e) What number is shown by the tally marks?

𝍸 | ☐

f) What number is shown by the tally marks?

𝍸 𝍸 ☐

g) Use tally marks (|) to show the number 3. ☐

h) Use tally marks (|) to show the number 11. ☐

i) Use tally marks (|) to show the number 7.

Number	Tally
7	

j) Use tally marks (|) to show the number 12.

Number	Tally
12	

k) What number is shown by the tally marks?

Tally	Number
𝍸 |||	

l) What number is shown by the tally marks?

Tally	Number
𝍸 𝍸 ||||	

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Skill 18.3 Interpreting and completing tables with tally marks (1).

- Count the tally marks and write the number.
- Draw tally marks for the given number.

Q. Complete the tally table.

Lighthouse Survey

States	Tally	Number
Connecticut	𝍸	5
New Jersey	𝍸 𝍸 IIII	
Delaware		4
Washington	𝍸 II	

A.

Lighthouse Survey

States	Tally	Number
Connecticut	𝍸	5
New Jersey	𝍸 𝍸 IIII	14
Delaware	IIII	4
Washington	𝍸 II	7

Count the number of tally marks for New Jersey and Washington. Write their totals in the number column.

Draw 4 tally marks for Delaware.

a) Complete the tally table.

Vehicle Type Passing School

Vehicle	Tally	Number
Sedan	𝍸 IIII	9
Station Wagon	𝍸 I	
Minivan	III	
Convertible	𝍸	

b) Complete the tally table.

People per square kilometre

Country	Tally	Number
Norway	𝍸 𝍸 IIII	
Bolivia	𝍸 II	
PNG	𝍸 𝍸	
Iceland	III	

c) Complete the tally table.

Drive - a - thon

Driver	Lap Tally	Number
F. Alonso	𝍸 III	
G. Fisichella	𝍸 𝍸 I	
A. Suzuki	𝍸 IIII	
M. Schumacher	𝍸 I	

d) Complete the tally table.

Frequency of 2, 3, 4, 5 as factors of the numbers 1 to 10

Factor	Tally	Number
2	𝍸	
3		3
4		2
5	II	

e) Complete the tally table.

Books in a series

Series	Tally	Number
Underland Chronicles	𝍸	
Deltora Quest	𝍸 III	
Mary Poppins	𝍸 II	
The Bliss Bakery	III	

f) Complete the tally table.

Eyelets in shoes

Shoe Type	Tally	Number
Runner	𝍸 𝍸 IIII	
Boat shoe		4
School shoe		8
Men's dress shoe	𝍸 𝍸	

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g) Complete the tally table for the days of rain in May 2019:

Canberra - 4, Perth - 9,
Brisbane - 8, Adelaide - 13

Days of rain in May 2019

City	Tally	Number
Canberra	IIII	
Perth		9
Brisbane		
Adelaide		

h) Complete the tally table for the average sunlight hours per day in Paris.

January - 2, April - 6,
July - 8, October - 4

Average sunlight hours per day in Paris

Month	Tally	Number
January	II	2
April		
July		
October		

i) Complete the tally table. How many goals were kicked in the 2019 AFL grandfinal?

Total goals in the 2019 AFL grandfinal

Quarter	Tally	Number
1st	III	
2nd		5
3rd		6
4th	𝍸 I	

j) Complete the tally table. How many vowels are in Shakespeare's longest word?

'Honorificabilitudinitatibus'

Vowel	Tally	Number
a	II	2
i		
o		
u		

k) Complete the tally table. How many vowels are in this word from Mary Poppins?

'Supercalifragilisticexpialidocious'

Vowel	Tally	Number
a	III	3
e		
i		
o		
u		

l) Complete the tally table. How many tiles in a Scrabble set are vowels?

A I A A I U A I A O I A I A O U I A A
E E O E U E E E I O O E E E O E E
E I I O O U

Scrabble tiles	Tally	Number
A	𝍸 IIII	9
E		
I		
O		
U		

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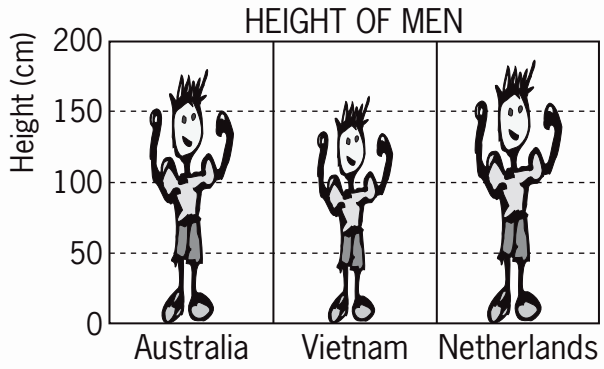
Skill 18.4 Interpreting bar graphs (1).

- Find the value of each line space by checking the scale on the side of the graph.

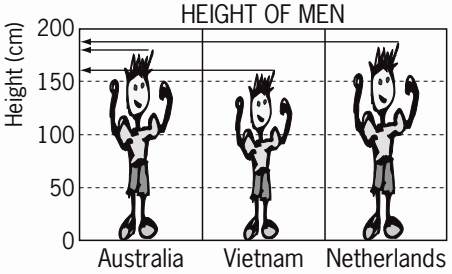
OR

- Compare the height (or length) of each bar.

Q. Which country has the shortest men?

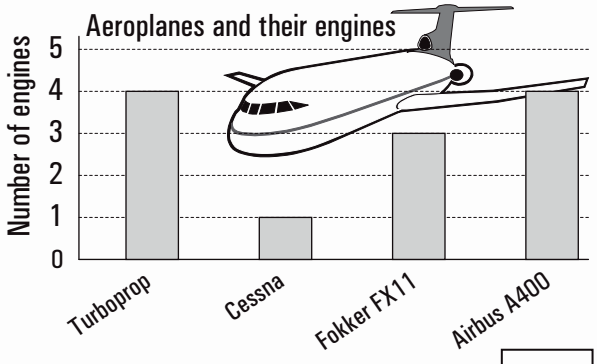


A. ***Vietnam***

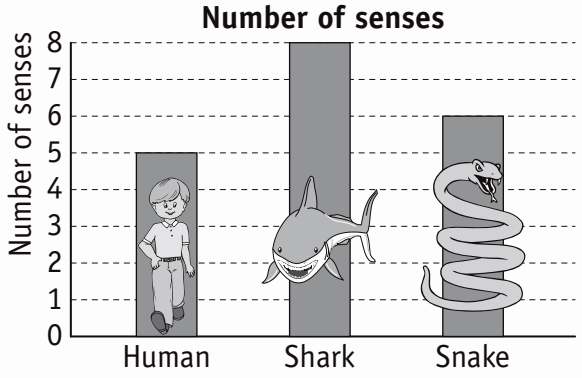


Compare the height of each man. The shortest man is in the 'Vietnam' column.

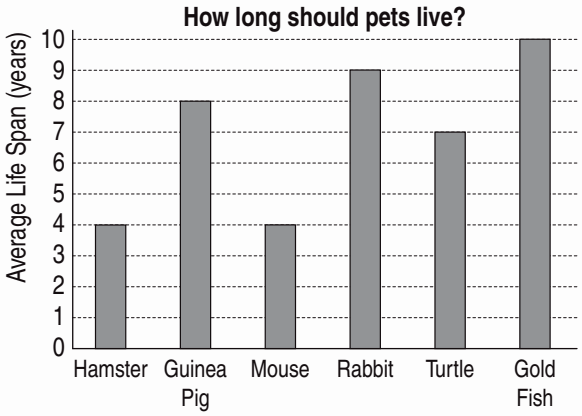
a) How many engines does a Fokker FX11 have?



b) Which animal has 8 senses?

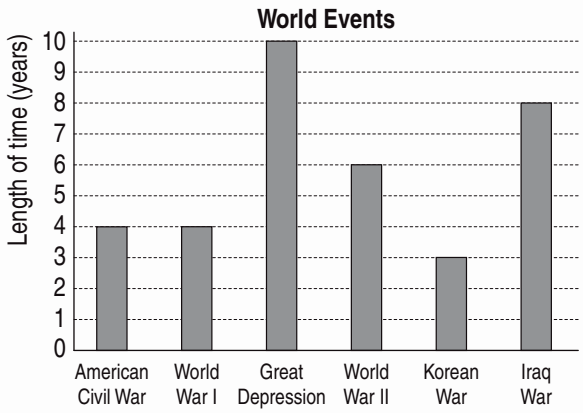


c) For how long should a mouse live?



years

d) For how long was World War II?



years

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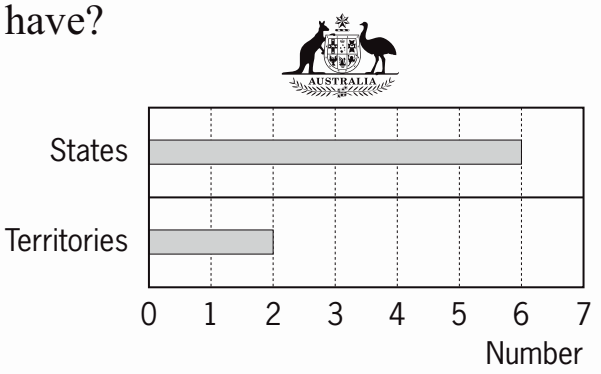
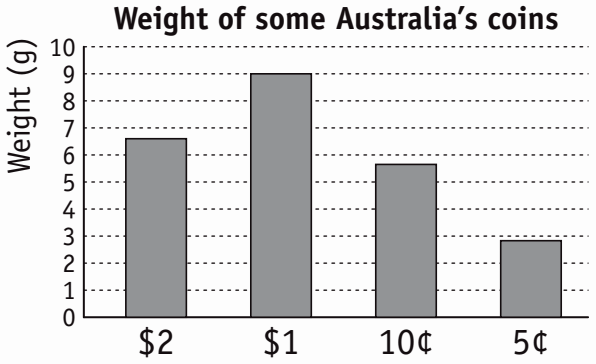
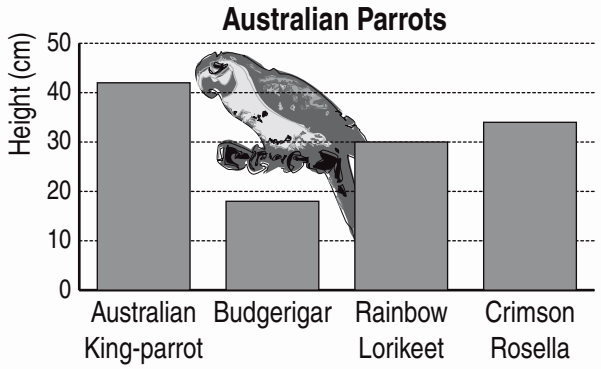
e) How many states does Australia have?



f) Which coin is the heaviest?

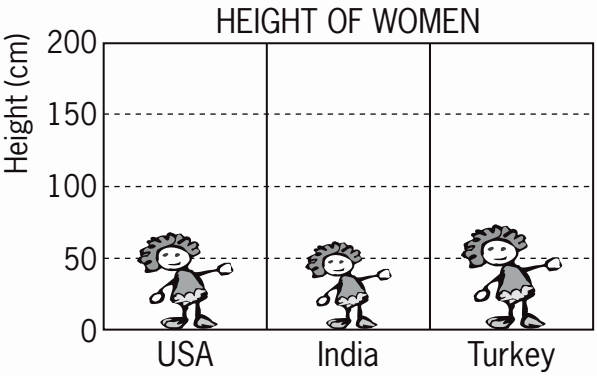


g) What is the height of the Rainbow Lorikeet?

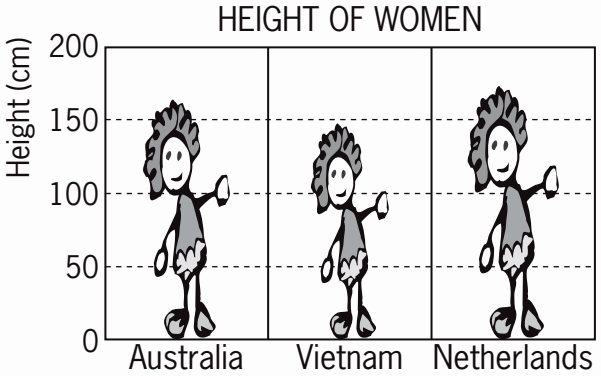


cm

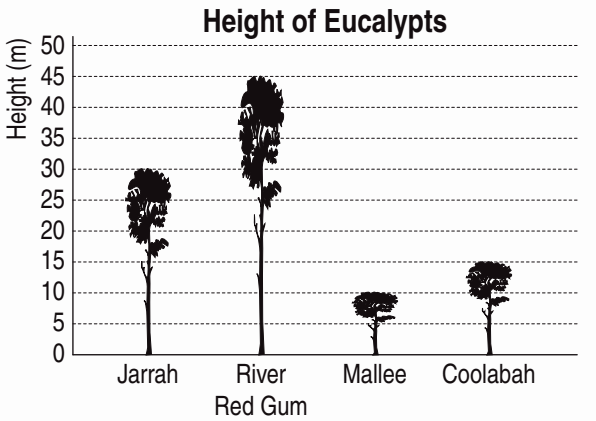
h) Which country has the shortest women?



i) Which country has the tallest women?



j) How high is the River Red Gum?



metres

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Skill 18.5 Recognising the likelihood of an event as likely, unlikely, certain, uncertain, possible, impossible (1).

Q. What is the chance ...

"A tourist will visit Alaska tomorrow."

A) possible
B) impossible

A. ***A***

Alaska is a possible tourist destination. Alaska is not an impossible place to visit.

a) What is the chance ...

"Some of your classmates will get jobs in computers."

A) likely
B) unlikely

b) What is the chance ...

"If this month is April, previous month was March."

A) certain
B) uncertain

c) What is the chance ...

"The nectarine is sweeter than the peach."

A) certain
B) uncertain

d) What is the chance ...

"A volcano will erupt at Uluru (Ayers Rock) tomorrow."

A) possible
B) impossible

e) What is the chance ...

"You go to hospital at least once in your life."

A) likely
B) unlikely

f) What is the chance ...

"Raj, who is 11, will be 8 next birthday."

A) possible
B) impossible

g) What is the chance ...

"Children born today will be alive in 20 years time."

A) likely
B) unlikely

h) What is the chance ...

"Australians will stop using technology from tomorrow."

A) likely
B) unlikely

i) What is the chance ...

"Supermarkets will give away free groceries tomorrow."

A) likely
B) unlikely

j) What is the chance ...

"The cat is faster than the dog."

A) certain
B) uncertain

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Skill 18.5 Recognising the likelihood of an event as likely, unlikely, certain, uncertain, possible, impossible (2).

k) What is the chance ...

"Easter Sunday will fall on a Tuesday."

A) possible
B) impossible

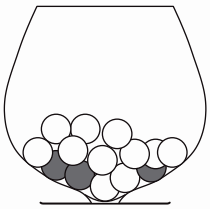
l) What is the chance ...

"One classmate will come to school by car tomorrow."

A) certain
B) uncertain

m) White and red marbles are in a bowl. You choose a marble without looking. How likely is it that you will pick a white one?

A) certain
B) unlikely
C) likely
D) impossible

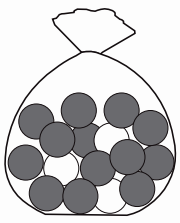


n) There are 8 white marbles and 11 green marbles in a bag. What is the chance that the first marble drawn from the bag will be black?

A) certain
B) unlikely
C) likely
D) impossible

o) There are 3 white marbles and 13 red marbles in a bag. What is the chance that the first marble drawn from the bag will be white?

A) certain
B) unlikely
C) likely
D) impossible

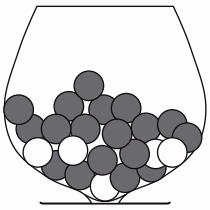


p) There are 4 white marbles and 7 red marbles in a bag. What is the chance that the first marble drawn from the bag will be either red or white?

A) certain
B) unlikely
C) likely
D) impossible

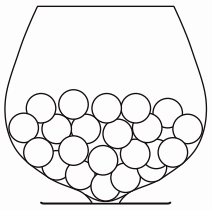
q) White and red marbles are in a bowl. You choose a marble without looking. How likely is it that you will pick a red one?

A) certain
B) unlikely
C) likely
D) impossible



r) White marbles are in a bowl. You choose a marble without looking. How likely is it that you will pick a red one?

A) certain
B) unlikely
C) likely
D) impossible



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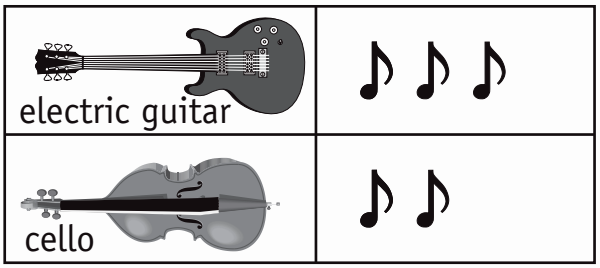
Skill 18.6 Interpreting picture graphs where one picture represents many data values (1).

- Find the value of each picture by checking the key or scale.
- Multiply the number of pictures by the key value. OR Count by that number.

Q. How many strings does an electric guitar have?

Instruments: number of strings

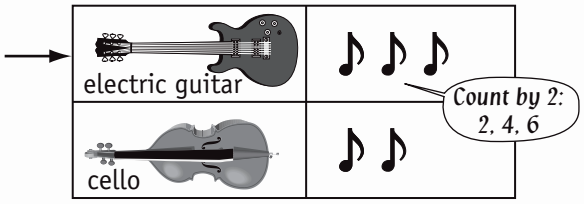


Key: ♪ = 2 strings

A. *6*

Key: ♪ = 2 strings

The key is 1 picture = 2 strings



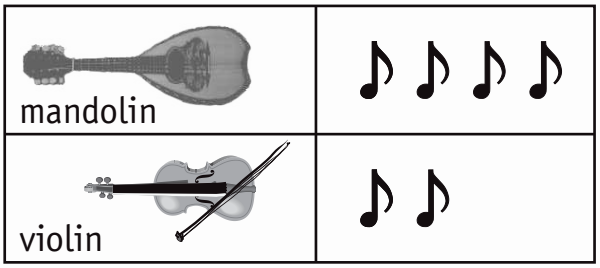
There are 3 pictures in the electric guitar row.

$2 \times 3 = 6$

3 pictures = 6 strings

a) How many strings does a mandolin have?

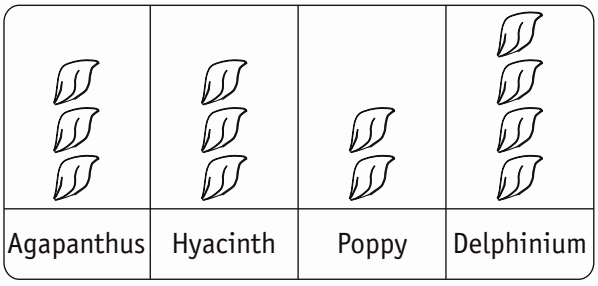
Instruments: number of strings



Key: ♪ = 2 strings

b) Which flower has 4 petals?

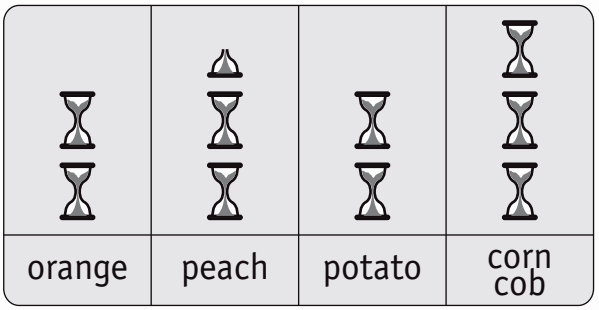
Flower Petals



Key: = 2 petals

c) How long does it take to digest an orange?

Digestion time

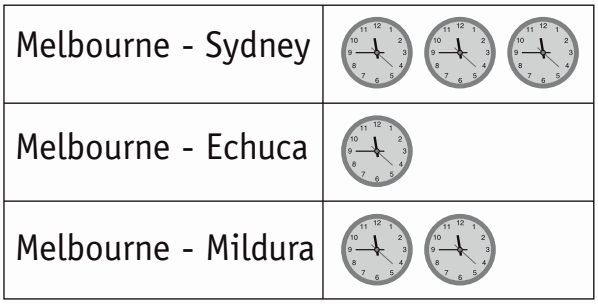


each = 1 hour each = $\frac{1}{2}$ hour

hours

d) How many hours does it take to drive from Melbourne to Sydney?

Drive Time



Each = 3 hours

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Skill 18.6 Interpreting picture graphs where one picture represents many data values (2).

e) Which newborn weighs 6 kg?

Weight of a newborn

Human	Sheep	Harp Seal	Jersey Calf

Key: = 3 kg

f) How much does the book cost?

Cost of items

$ $ $ $ $	$ $ $ $ $ $	$ $ $	$ $ $ $ $

Each $ = 5 dollars

dollars

g) In which year were 8 legends stamps issued?

Australian Legends stamp issues

2012	☐ ☐
2011	☐
2010	☐ ☐ ☐
2009	☐

each ☐ = 4 stamps

h) Which location has 11 daylight hours in December?

Daylight hours in December - (average)

England	☀ ☀ ☀ ☀
Thailand	☀ ☀ ☀ ☀ ☀ ☾
Australia	☀ ☀ ☀ ☀ ☀ ☀ ☀ ☾
Equator	☀ ☀ ☀ ☀ ☀ ☀

each ☀ = 2 hours each ☾ = 1 hour

i) Which city is a one and a half hour flight from Sydney?

Flight time: From Sydney to...

Perth	✈ ✈ ✈ ✈
Melbourne	✈
Adelaide	✈ ✈
Wellington (NZ)	✈ ✈ ✈

each ✈ = 1 hour each ✈ = $\frac{1}{2}$ hour

j) How many more teams in the AFL than the A-League?

Players on the field

A-LEAGUE	🏃 🏃 🏃 🏃 🏃 🏃
AFL	🏃 🏃 🏃 🏃 🏃 🏃 🏃 🏃 🏃

🏃 = 2 teams 🏃 = 2 teams

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Skill 18.7 Comparing the chance of two events.

- Count the number of chances for the first event.
- Count the number of chances for the second event.
- Compare the number of chances of each event.

Q. Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar does a dark chocolate have no chance of being chosen?

A) B)

A. ***B***

Event 1:
Jar A contains 4 dark chocolates
$\Rightarrow$ 4 chances

Event 2:
Jar B contains 0 dark chocolates
$\Rightarrow$ 0 chances

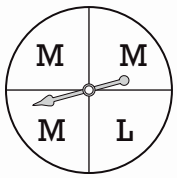
a) Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar does a white chocolate have a greater chance of being chosen?

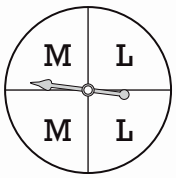
A) B)

b) Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar does a white chocolate have no chance of being chosen?

A) B)

c) Each wheel is spun once. On which wheel does the letter 'L' have a lesser chance of being spun?

A) 

B) 

d) Each wheel is spun once. On which wheel does letter 'Z' have a greater chance of being spun?

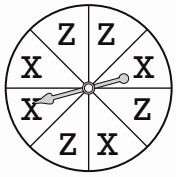
A)

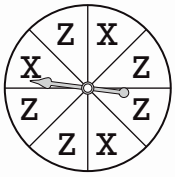
B)

e) Two jars contain chocolates. A chocolate is chosen from each jar without looking. From which jar is a dark chocolate sure to be chosen?

A) B)

f) Each wheel is spun once. On which wheel do the letters 'X' and 'Z' have equal chance to be spun?

A) 

B) 

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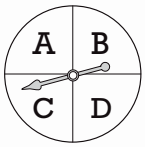
Skill 18.8 Listing all the possible outcomes of an event.

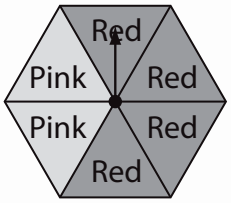
- List all the possibilities (outcomes), ignoring double-ups.

Q. List the four possible outcomes when you spin this spinner.

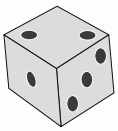


A. ***A, B, C, D***

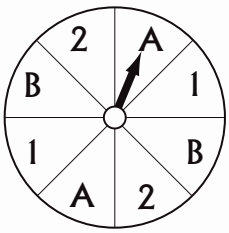
a) List the two possible outcomes when you spin this spinner.



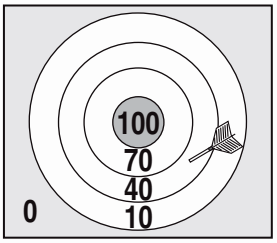
b) List the six possible outcomes when you roll a standard die.



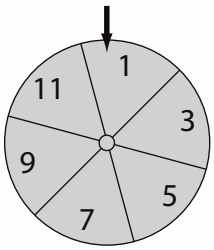
c) List the four possible outcomes when you spin this spinner.



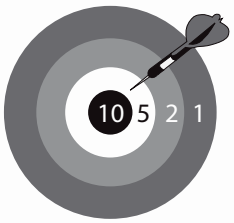
d) List the five possible outcomes when you throw a dart and hit the board.



e) List the six possible outcomes when you spin this spinner.



f) List the four possible outcomes when you throw a dart and hit the board.



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Skill 18.9 Representing data from tables as bar graphs and data from bar graphs as tables (1).

Representing tables as bar graphs

- Check the value of the category.
- Find that category on the bar graph.
- Draw a bar to the length of that value by using the scale.

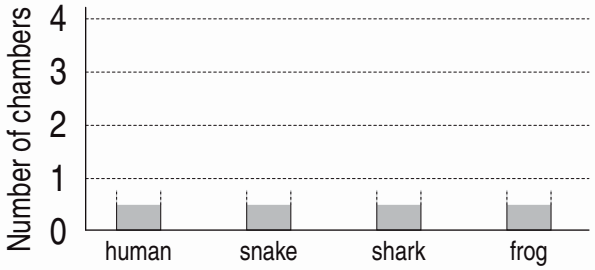
Representing bar graphs as tables

- Check the length of the bar for a category.
- Find that category in the table.
- Fill in the table using the length of the bar.

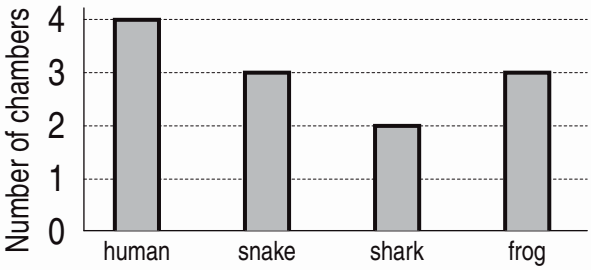
Q. Use the table to complete the graph.

Chambers of the heart

Animal	Number of chambers	Animal	Number of chambers
human	4	shark	2
snake	3	frog	3



A.

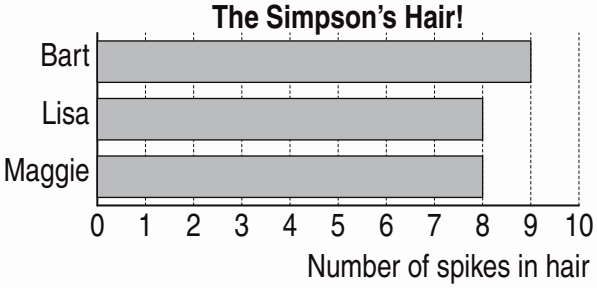


The value of the 'human' category is 4.

Above 'human' draw a bar to the length of 4.

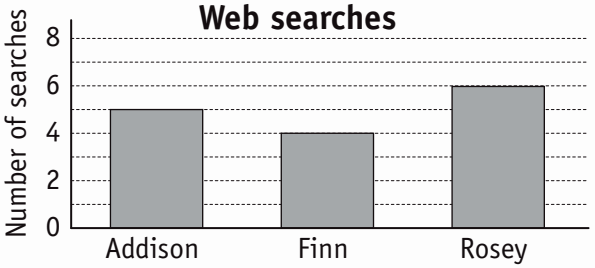
Repeat for all other categories ('snake', 'shark' and 'frog').

a) Use the graph to complete the table.



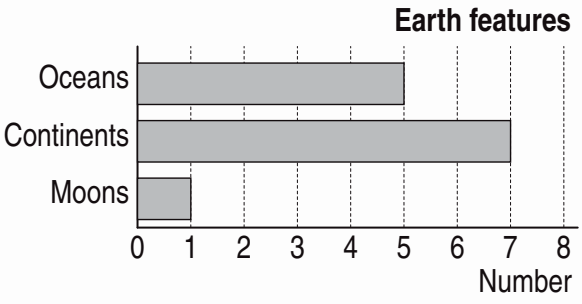
Simpson	Number of spikes
Bart	9
Lisa	
Maggie	

b) Use the graph to complete the table.



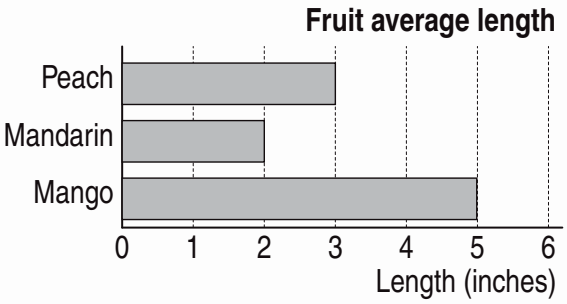
Student	Number of searches
Addison	
Finn	
Rosey	

c) Use the graph to complete the table.



Earth Feature	Number
Moons	
Oceans	
Continents	

d) Use the graph to complete the table.



Fruit	Length (inches)
Mandarin	
Peach	
Mango	

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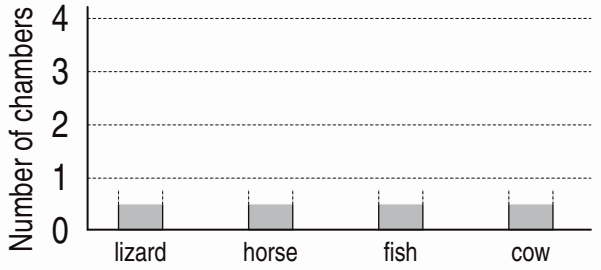
Skill 18.9 Representing data from tables as bar graphs and data from bar graphs as tables (2).

e) Use the table to complete the graph.

Chambers of the heart

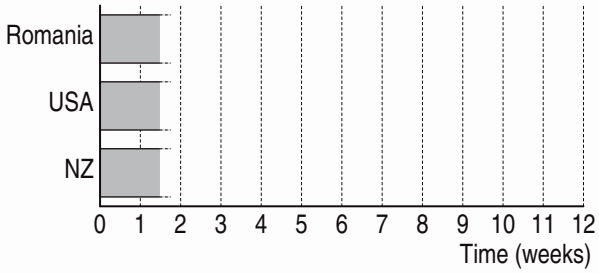
Animal	Number of chambers	Animal	Number of chambers
lizard	3	fish	2
horse	4	cow	4



f) Use the table to complete the graph.

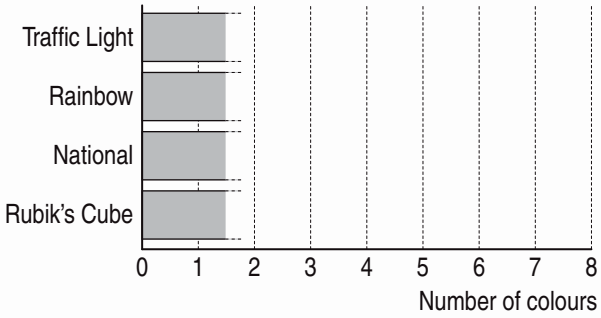
Length of School Summer Holidays

Country	School holiday time
Romania	12 weeks
USA	6 weeks
New Zealand (NZ)	6 weeks



g) Use the table to complete the graph.

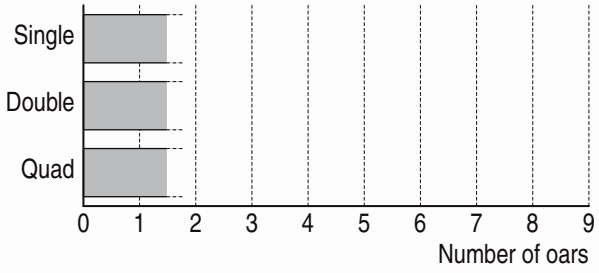
	Number of colours
Traffic Light	3
Rainbow	7
National Australian	3
Rubik's Cube	6



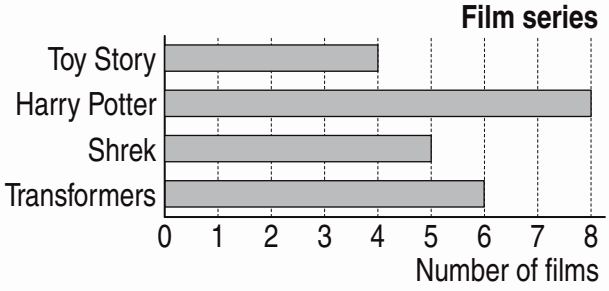
h) Use the table to complete the graph.

Sculling boats

Type of sculling boat	Number of oars
Single scull	2
Double scull	4
Quad scull	8

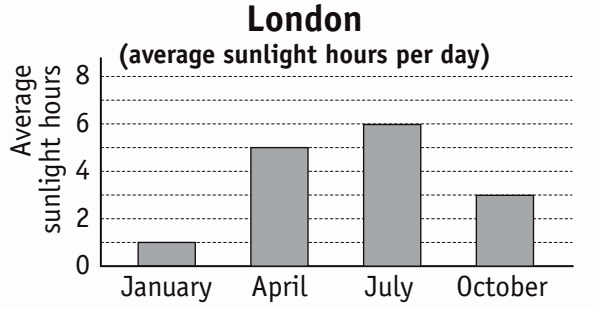


i) Use the graph to complete the table.



Film series	Number of films
Toy Story	
Harry Potter	
Shrek	
Transformers	

j) Use the graph to complete the table.



Month	Average sunlight hours per day
January	
April	
July	
October	

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Skill 18.10 Describing the degree of likelihood of an event.

Hint: Think about the worst possible outcome.

- Add 1 to the worst possible outcome.

Q. The iPhone is on shuffle mode. It has 50 songs, 40 of which Mae likes. To how many songs does Mae need to listen, to be certain she hears a song she likes?

A. ***11***

There are 10 songs Mae does not like. The worst that can happen is that Mae hears all 10 songs she does not like first. So it could be the 11th song Mae listens to that is the first of the ones she likes.
10 + 1 = 11

a) A money bag contains 10 twenty-cent coins and 19 fifty-cent coins. A coin is randomly selected. How many coins do you have to choose to make sure you have a fifty-cent coin? ☐

b) Andrew has 7 one-dollar coins and 5 two-dollar coins in his pocket. He picks up a coin without looking. How many coins does Andrew have to pick to make sure he has a one-dollar coin? ☐

c) The media player is on shuffle mode. It has 30 songs, 25 of which Verve likes. To how many songs does he need to listen, to be certain he hears a song he dislikes? ☐

d) Trish has 20 batteries and 6 do not work. How many batteries does she have to check to make sure she has a battery that works? ☐

e) There are 12 pillow cases in our linen cabinet. Four are pink. Mum reaches inside the cabinet in the dark. How many pillow cases does she need to take out to make sure she has two pink ones? ☐

f) There are six pairs of runners in the back of Mike's closet. Because the closet is dark, how many individual runners must he take out of the closet to make sure he has a matching pair of runners? ☐

g) A store has 10 second-hand Play Station consoles and 2 do not work. How many consoles do they have to check to make sure they have one that works? ☐

h) A box has raffle tickets numbered from 1 to 40. Without looking, how many tickets must be drawn to make sure you have an even number? ☐

i) The iPhone is on shuffle mode. It has 25 songs, 5 of which Zac does not like. To how many songs does Zac need to listen, to be certain he will hear a song he does not like? ☐

j) A store has 50 boxes of cereal. There is a pedometer in 23 of these boxes. How many boxes do you have to buy to make sure you have a box with a pedometer inside? ☐

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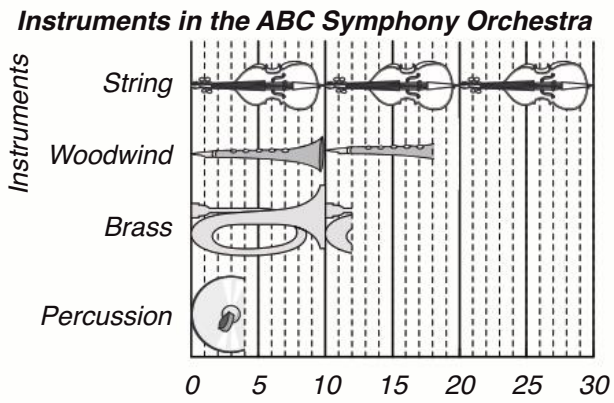
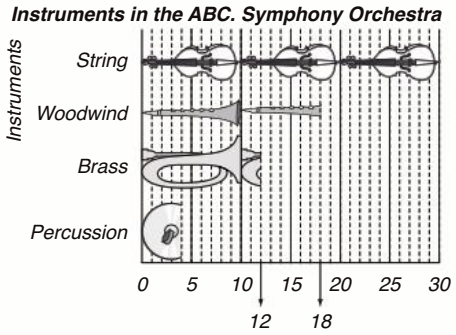
Q. How many more woodwind than brass instruments are in the ABC Symphony Orchestra?

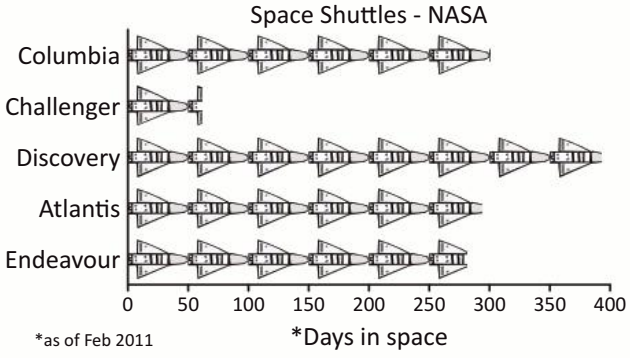


A. *6*

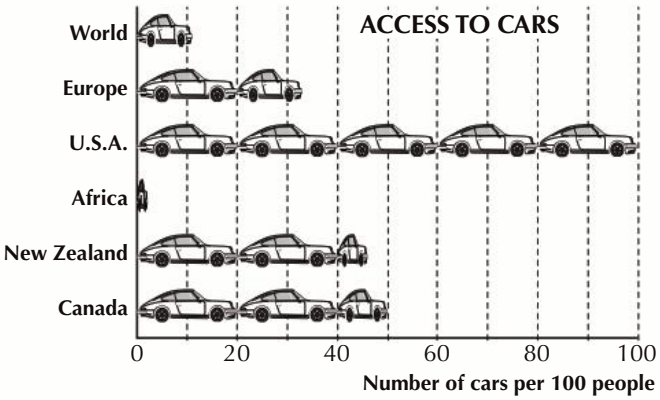


Each interval on the scale equals one instrument.
There are 18 woodwind instruments.
There are 12 brass instruments.
18 – 12 = 6

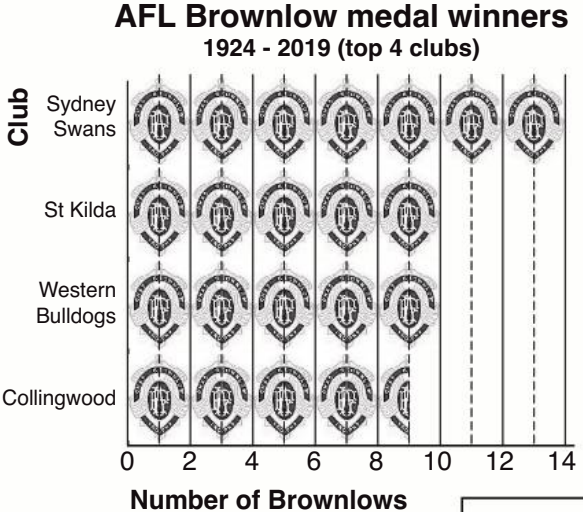
a) Which space shuttle has spent closest to 1 year in space?



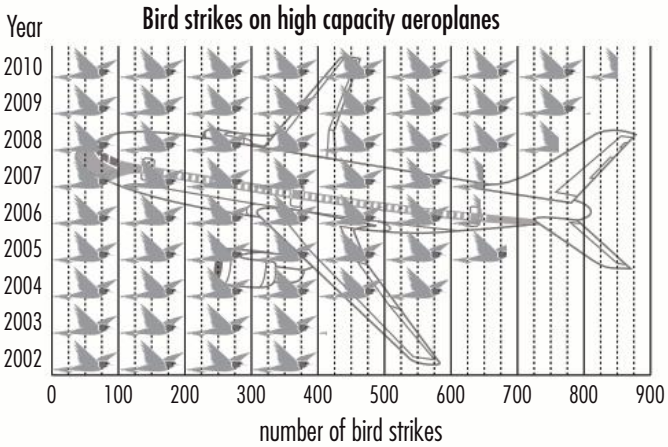
b) How many cars per 100 people are there in Canada?



c) How many Brownlow medals in total have been won by Collingwood and the Sydney Swans?



d) How many of the years shown had between 600 and 700 birds hitting high capacity aeroplanes.



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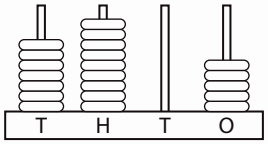
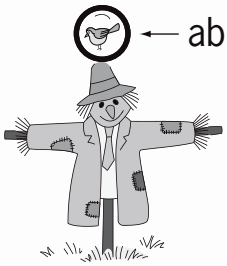
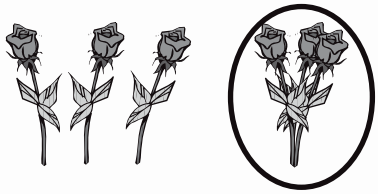
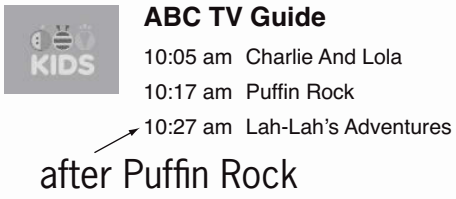
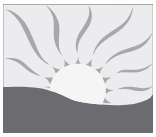
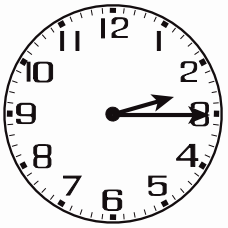
TERMS	DEFINITIONS	EXAMPLES
abacus	• Beads on a frame used for counting and calculating.	
above	• *Higher* than or over the top of an object.	
add (+)	• To join together.	
addition	• Finding the *total* or *sum* of two or more numbers.	4 + 5 = 9
after	• *Forward* in *time*.	
afternoon	• The *time* from 12 noon to 6 *pm*.	
am (**a**nte **m**eridiem)	• The *time* from midnight to midday.	
amount	• How much.	
analogue clock	• A clock that has rotating hands and shows 12 hour *time*.	

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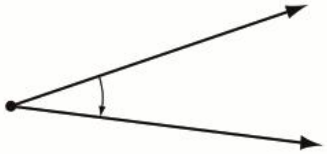
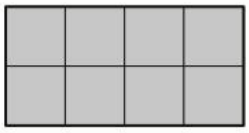
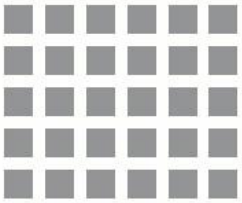
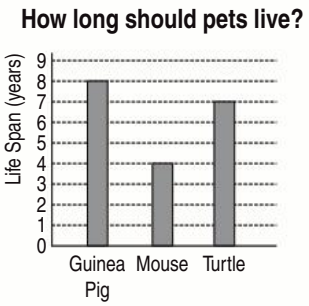
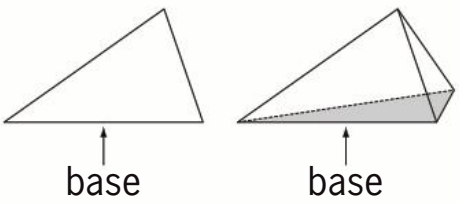
angle	• The *amount* of turning *between* two straight *lines* that are fixed at a point.	
annual	• Happening *once* a *year*.	
area	• The *amount* of surface covered by a *2D shape*.	 Area = 8 squares
array	• Objects arranged in *rows* and *columns*.	
autumn	• March, April and May. The *season after summer*.	
backwards	• In reverse of the usual way. Away from your *front*.	10, 9, 8, 7, 6, 5 ....
bar graph	• Uses bars to show quantities or numbers so they can be easily compared.	
base	• A *line* or surface on which a *shape* stands.	

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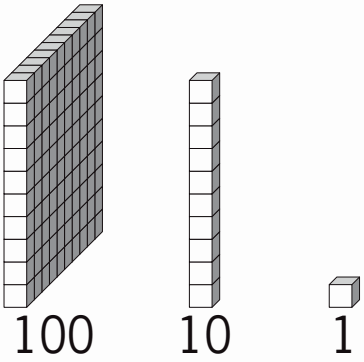
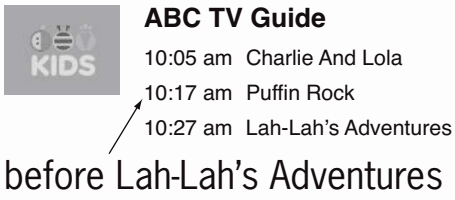
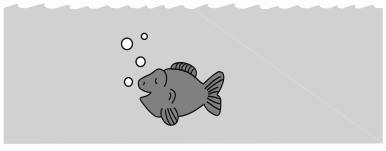
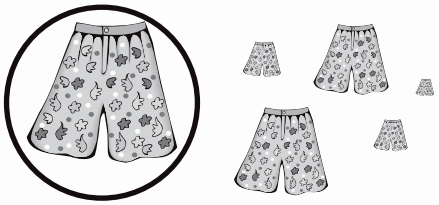
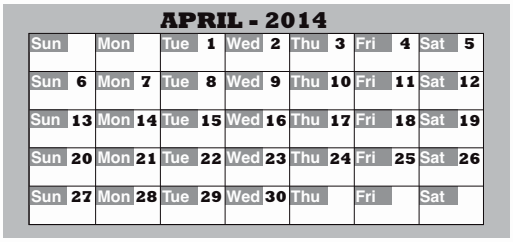
base 10 blocks	• Blocks that show base 10 values.	
before	• *Backward* in *time*.	
behind	• A *position* at the back.	
below	• Lower than or underneath an object.	
between	• At a place bounded by two or more places. e.g. Canberra is located between Melbourne and Sydney.	
biggest	• The *largest*.	
calculate	• To work something out.	3 + 4 = 7
calendar	• A *time* chart that tells us what *day*, *week*, *month* and *year* it is.	

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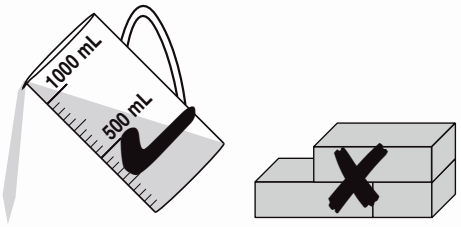
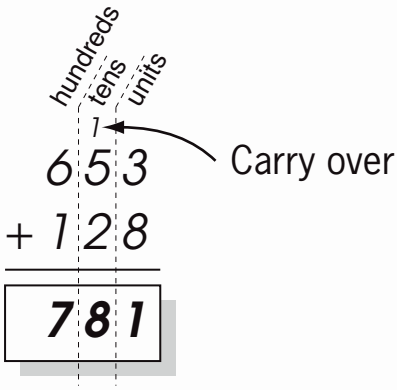
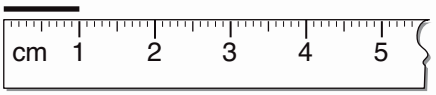
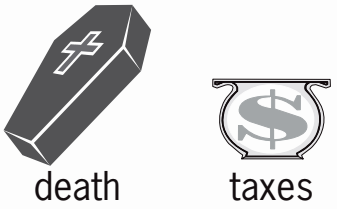
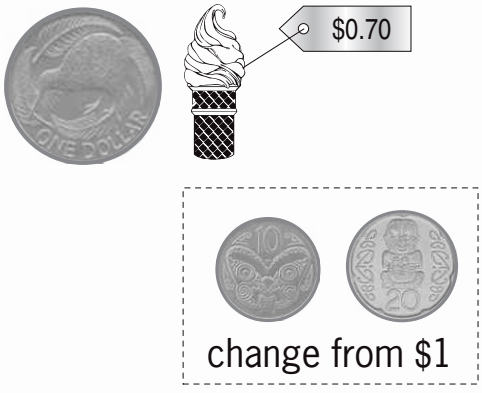
capacity	• Or *volume*, is the measure of the *amount* of liquid a container can hold.	
carry over	• The *amount* passed to the next *place value* in an algorithm.	
cent (¢)	• The *smallest unit* of money. 100 cents = 1 *dollar*	
centimetre	• A *unit* of *length*. 1 centimetre = 10 *millimetres*.	
certain	• Being sure. • Will definitely happen.	
chance	• The possibility of getting a particular result.	 1 out of 6 chances to throw a 2.
change (money)	• The leftover money you are given back after buying something.	

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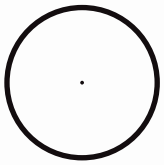
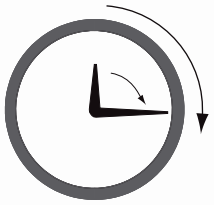
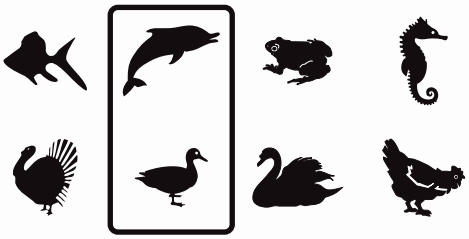
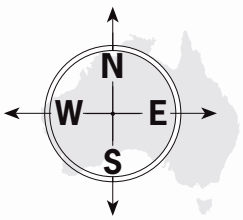
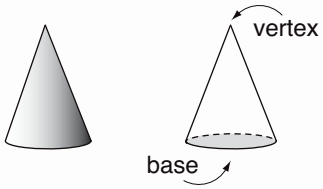
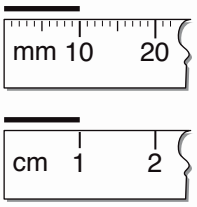
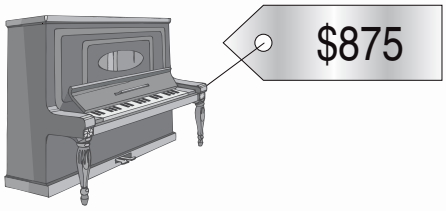
circle	• A *2D shape* bounded by a *line* that is always the same *distance* from the *middle* point (centre).	
clockwise	• Moving in the *direction* of the hands on a clock.	
closest	• Nearest to.	
column	• A *vertical line* in an *array* or *table*.	 2nd column from the left
compass	• An instrument that shows *direction*.	
cone	• A *3D shape* with one circular *base* and one *vertex*.	
convert	• Change from one *unit* to another.	
cost (money)	• The *amount* you pay to buy something.	

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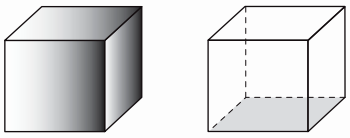
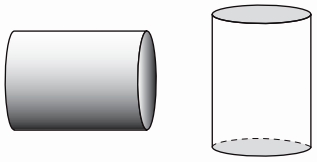
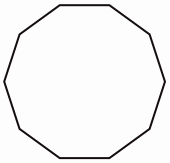
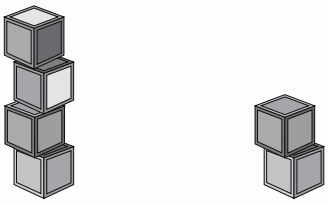
counting numbers	• A *whole number* from 1 to .... forever (infinity).	1, 2, 3, 4, 5 ....
cube	• A *3D shape* with six identical *square* faces.	
curved line	• A *line* that is not straight.	
cylinder	• A *3D shape* with two circular ends of the same size.	
date (time)	• Tells us the *day*, *month* and *year*.	7th June 2021 7/6/2021
day	• A *unit* of *time* equal to 24 *hours*. A day starts and ends at midnight.	
decagon	• A *2D shape* with 10 *sides*.	
decrease	• To make smaller.	
difference	• The result when a number is *subtracted* from another number. • The *amount* by which one number is bigger or smaller than another number.	5 – 3 = 2
digit	• Any of the first ten *whole numbers* from 0 to 9.	0, 1, 2, 3, 4, 5, 6, 7, 8 and 9

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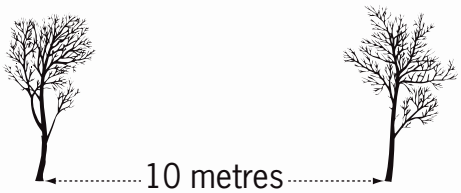
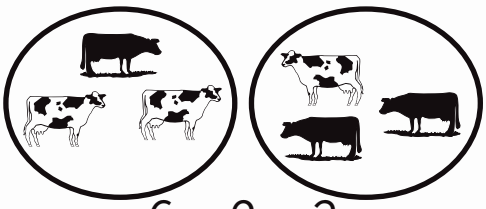
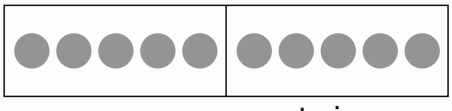
digital clock	• A clock that uses only numbers to show the *time*. (No hands!)	
digital time	• The *time* shown in numbers.	12 : 25 : 53 hours minutes seconds
direction	• The way something is pointing or going.	north, up left, west east, right south, down
distance	• The *length between* two points.	
divide (÷)	• To *share* into *equal groups*.	 6 ÷ 2 = 3
division	• The *operation* of sharing or grouping a number into *equal* parts.	
dollar ($)	• A *unit* of money. 1 dollar = 100 *cents*	5 dollars 10 dollars 20 dollars 50 dollars 100 dollars
double	• *Twice* as much. • *Multiplied* by two.	 once twice

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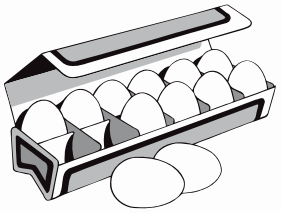
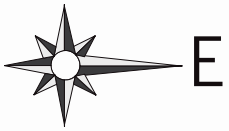
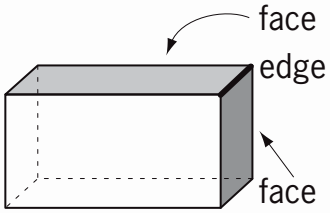
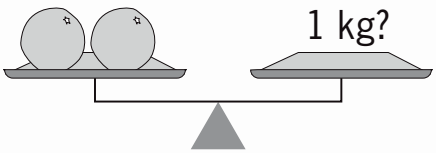
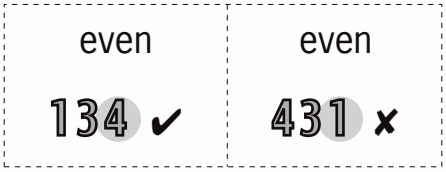
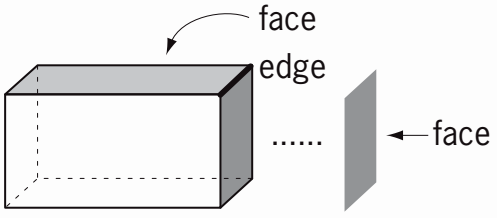
dozen	• Twelve.	
east	• A compass *direction*.	
edge	• Where two *faces of a 3D shape* meet.	
eighth	• The *position* after *seventh*.	1st, 2nd, 3rd, 4th, 5th, 6th, 7th, **8th** ...
equal (=)	• Exactly the same in *value* or *size*.	
estimate	• To make a close guess.	
even number	• A *whole number* that can be *divided* by two. • Even numbers end with 0, 2, 4, 6 or 8.	
expanded notation	• A way of writing a number to show the *value* of each *digit*.	123 = 100 + 20 + 3
face of a 3D shape	• *2D shapes* that join on their *edges* to form a *3D shape*.	

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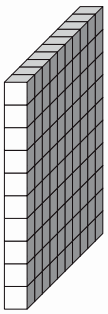
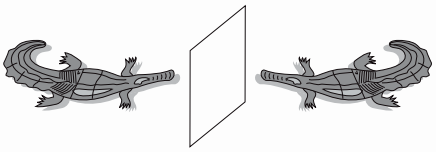
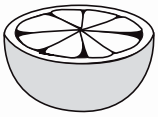
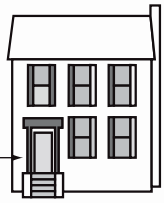
fifth	• The *position* after *fourth*.	1st, 2nd, 3rd, 4th, **5th** ...
first	• Placed *before* anything else.	
flat	• *Base 10 block* of 100 (10 × 10).	 100
flip	• To turn across a *line* so the result is a mirror image.	
fortnight	• A *unit* of *time* equal to 2 *whole weeks* or 14 *days*.	
forwards	• In the *direction* of your *front*.	1, 2, 3, 4, 5, ...
fourth	• The position after *third*.	1st, 2nd, 3rd, **4th** ...
fraction	• Part of a *group*. • Part of a *whole*.	$\frac{5}{8}$  $\frac{1}{2}$
front	• The *side* of an object that is usually seen *first*.	front door → 

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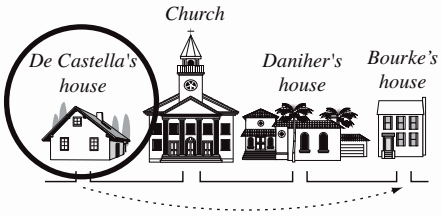
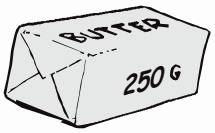
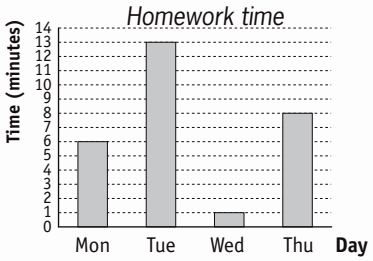
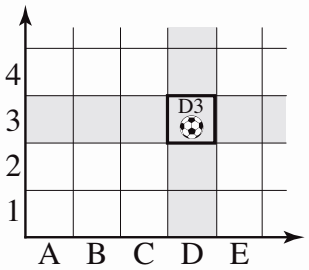
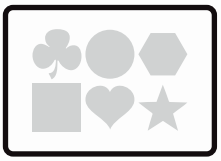
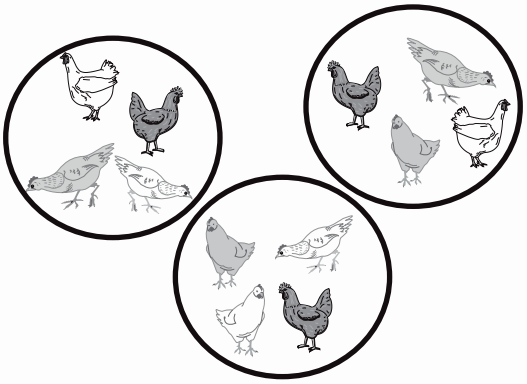
furthest	• The *longest* way away.	
gram (g)	• A *unit* of *weight*. 1000 grams = 1 *kilogram*	
graph	• A diagram that shows a collection of information.	
greater than (>)	• A symbol showing which is bigger.	10 > 2 means that 10 is greater than 2.
greatest	• The *biggest*.	10 5 1 7 9 3
grid reference	• A *pair* of letters and/or numbers that describe *location* within a grid.	
group	• To join together in a collection.	
groups of	• Collections of things.	

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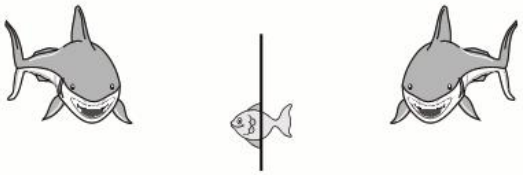
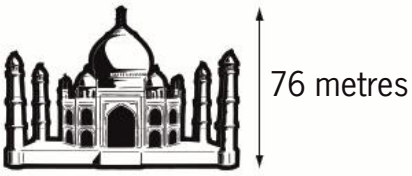
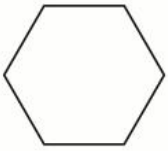
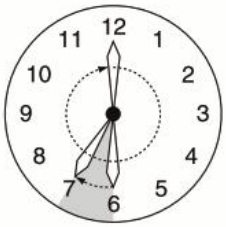
half	• (pl. **halves**) One of two *equal* parts expressed as a *fraction*.	
halfway	• In the *middle*, *between* 2 points.	
height	• The vertical *distance* from top to bottom.	
heptagon	• A *2D shape* with 7 *sides*.	
hexagon	• A *2D shape* with 6 *sides*.	
horizontal line	• The same direction as the horizon.	
hour (h)	• A *unit* of *time*. 1 hour = 60 *minutes*	
hundreds	• The *place value between tens* and *thousands*.	Place Thousands | Hundreds | Tens | Ones *3* | *4* | *2* | *0* Value *3000* | *400* | *20* | *0*
impossible	• Cannot happen.	Christmas Day - 4th of April?????

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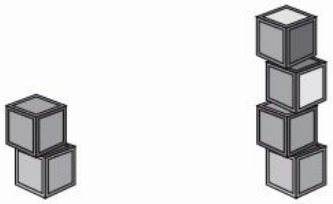
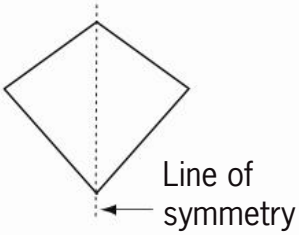
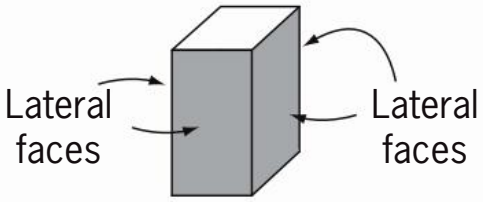
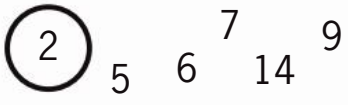
increase	• To make larger or grow in *size*.	
key (maps)	• The information needed to read a *map*, *graph* or diagram.	
kilogram (kg)	• A *unit* of *weight*. 1 kilogram = 1000 *grams*	
kilometre (km)	• A *unit* of *distance*. 1 kilometre = 1000 *metres*	
kite	• A special *2D shape* with 4 *sides*. One *line of symmetry*.	
largest	• The *biggest*.	
largest to smallest	• Ranking in order from the *greatest* to *least*.	
lateral faces	• The vertical surfaces on a *3D shape*.	
leap year	• A *year* with 366 *days* that falls every *fourth* year and includes the 29th of February as the extra day.	2016 is a leap year.
least	• The *smallest*.	

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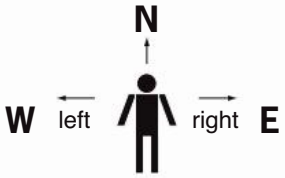
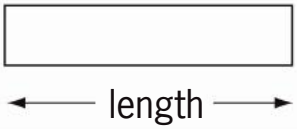
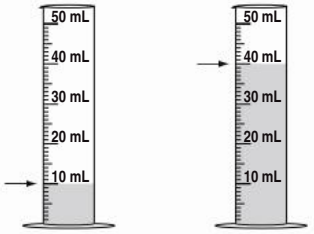
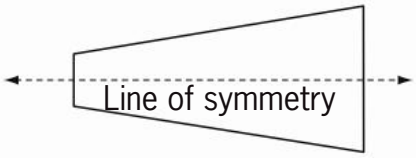
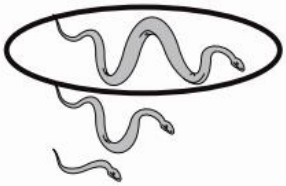
left	• The *direction* to the *west* of your body if you are facing *north*.	
length	• The *distance* from one end to the other. • How long a shape is.	
lesser	• Not as many as another.	
less than (<)	• A symbol showing which is smaller.	$2 < 10$ means that 2 is less than 10.
likely	• Will probably happen.	 It is likely to spin a Z.
line	• A continuous narrow mark.	
line of symmetry	• A *line* that *divides* a *shape* so that one *side* is a mirror image of the other. Both sides match exactly when folded.	
litre (L)	• A *unit* of *capacity*. 1 litre = 1000 *millilitres*	
location	• The exact place, where something is situated.	
longest	• Having the *biggest length*.	

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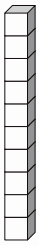
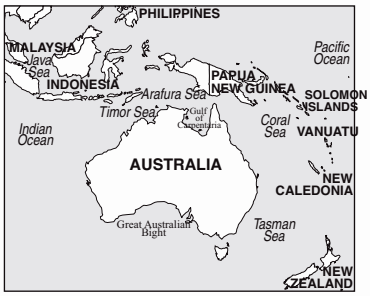
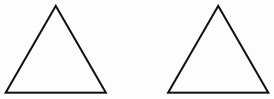
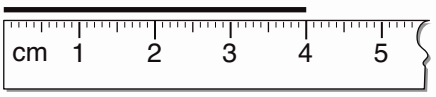
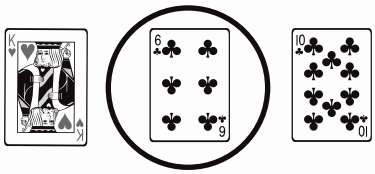
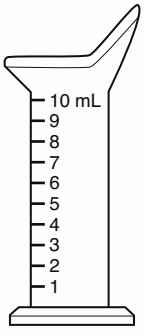
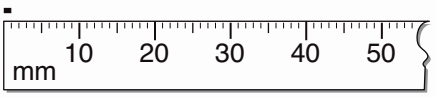
longs	• *Base 10 block* of 10 (1×10).	 10
map	• A diagram of a region showing its *position* in the world.	South Pacific 
match	• Put with an identical object.	
measure	• To work out the *size* or *amount*.	
metre (m)	• A *unit* of *length*. 1 metre = 100 *centimetres*	Standard 400 metre athletics track
middle	• A point *halfway between*. In the centre.	
millilitre (mL)	• A *unit* of *capacity*. 1000 millilitres = 1 *litre*	
millimetre (mm)	• A *unit* of *length*. 10 millimetres = 1 *centimetre*	

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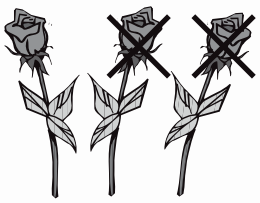
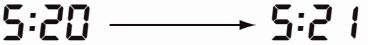
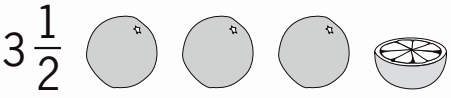
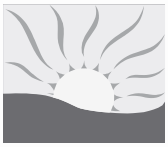
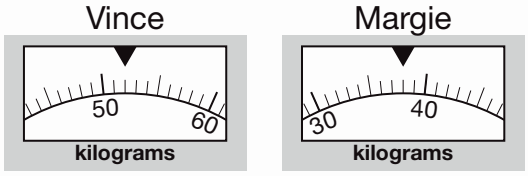
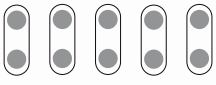
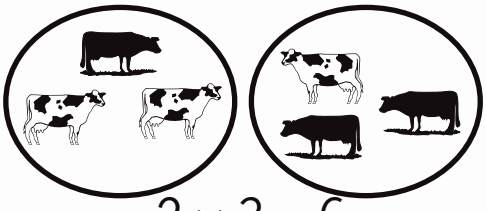
minis	• *Base 10 block* of one (1).	1
minus (–)	• Another word for *subtract*. To *take away*.	 3 – 2 = 1
minute (min)	• A *unit* of *time*. 1 minute = 60 *seconds*	
mixed number	• The *sum* of a *whole number* and a *fraction less than* one.	
month	• A *unit* of *time*. • A month *is equal* to 28, 29, 30 or 31 *days*.	
morning	• The early part of the *day* ending at 12 noon.	
most	• The *greatest* amount.	 Vince weighs the most.
multiplication	• An *operation* where a number is *added* to itself a number of times.	$2 \times 5 = 10$  $2 + 2 + 2 + 2 + 2 = 10$
multiply (×)	• To find the *total* of a number of identical *groups*.	 $2 \times 3 = 6$
ninth	• The *position* after *eighth*.	1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, **9th** ...

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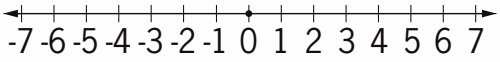
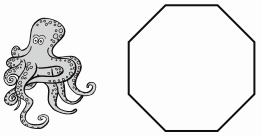
none	• *Zero*.	no picture
north	• A compass *direction*.	
number line	• An evenly marked *line* that shows the *position* of numbers.	
numeral	• A symbol used to represent a number.	Arabic numerals: 1, 2, 3, 4, 5 ... Roman numerals: I, II, III, IV, V ...
octagon	• A *polygon* with 8 *sides*.	
odd number	• A *whole number* that cannot be *divided* by 2. • Odd numbers end with 1, 3, 5, 7 or 9.	odd: 431 ✔ odd: 134 ✘
once	• On one occasion.	Just this time!
ones	• The *place value before tens*.	Place: Thousands 3, Hundreds 4, Tens 2, Ones 0 Value: 3000, 400, 20, 0
opposite	• The equivalent *position* but on the other side.	← left right →
order	• Placing a *group* in a special arrangement.	 tallest to shortest

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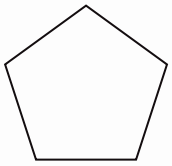
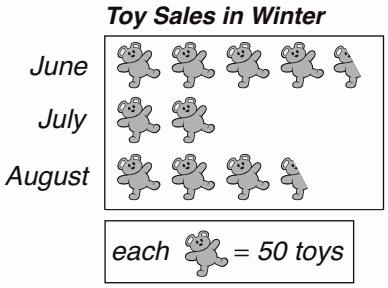
outcome	• Possible result of a probability experiment.	 throw a die - 1, 2, 3, 4, 5 or 6 6 outcomes
pair	• Two together.	
parallelogram	• A special *2D shape* with 4 *sides*. *Opposite* sides are *equal* in *length*. *Opposite angles* are *equal*.	
pattern	• Numbers or objects that are arranged following a rule.	
pentagon	• A *2D shape* with 5 *sides*.	
per	• For each. • Can be written as a forward slash (/).	 One ticket per person
pictograph	• A *graph* that uses pictures or symbols to represent information.	 *Toy Sales in Winter* *June* *July* *August* *each* = *50 toys*
place value	• *Value* according to *position* in a number.	Place Thousands | Hundreds | Tens | Ones *3* | *4* | *2* | *0* Value *3000* | *400* | *20* | *0*

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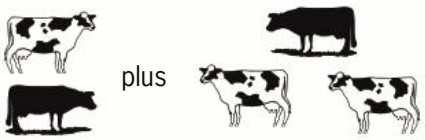
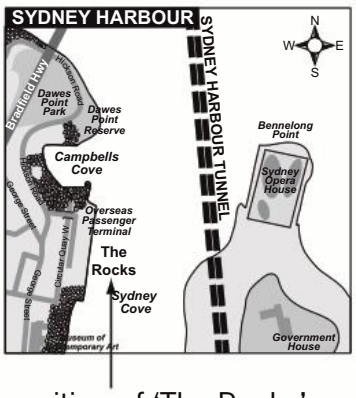
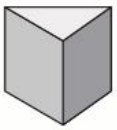
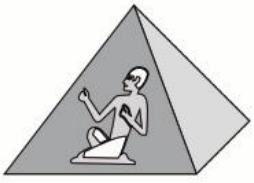
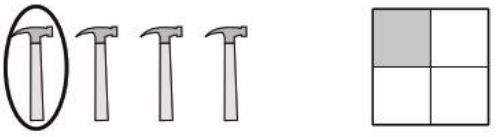
plus (+)	• Another word for *addition*. To *add*.	 plus $2 + 3 = 5$
pm **(p**ost **m**eridiem**)**	• The *time* from midday to midnight.	
position	• Where something is in relation to things around it.	 position of 'The Rocks'
possible	• Can happen.	 landing on tails
prism	• A *3D shape*. Two *bases* are the same size.	
pyramid	• A *3D* shape. All *lateral faces* are *triangles* that meet at one point called *vertex*. A pyramid is named for the *shape* of its *base*.	
quadrilateral	• A *2D shape* with 4 *sides*.	
quarter	• One of four equal parts of a *group* or object. • Written as the *fraction* $\frac{1}{4}$.	

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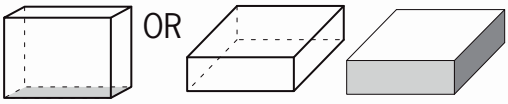
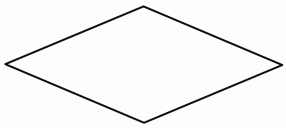
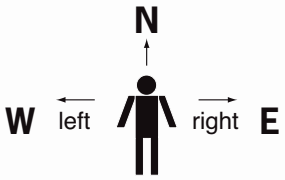
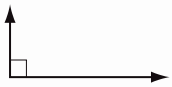
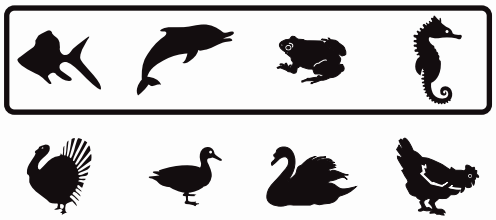
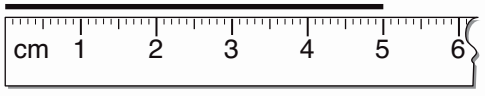
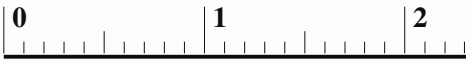
rectangle	• A special *2D shape* with 4 *sides*. *Opposite* sides are *equal* in *length*. All *angles* are *right angles*.	
rectangular prism	• A *3D shape* with 6 rectangular *faces*.	
rhombus	• A special *2D shape* with 4 *equal sides*. *Opposite angles* are *equal*.	
right	• The *direction* to the *east* of your body if you are facing *north*.	
right angle	• An *angle* measuring exactly 90°. It is marked with a corner.	
Roman numerals	• *Numeral* system invented by the ancient Romans.	I = 1 V = 5 X = 10 L = 50 C = 100 D = 500 M = 1000
row	• A *horizontal line* in an *array* or *table*.	
ruler	• An instrument for measuring *length*.	
scale	• Set of marks on a *line*.	
season	• There are 4 seasons: *Summer*, *Autumn*, *Winter*, *Spring*. • A *length* of *time* lasting 3 *months*.	**Summer**: December, January, February **Autumn**: March, April, May **Winter**: June, July, August **Spring**: September, October, November

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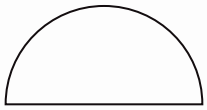
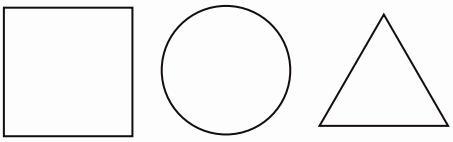
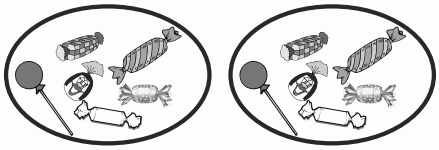
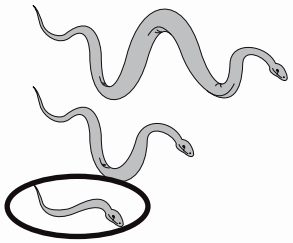
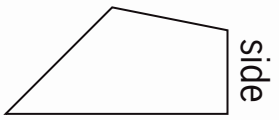
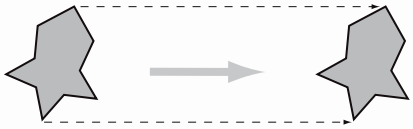
second (s)	• A very short *unit* of *time*. 60 seconds = 1 *minute*	5:20: 13 ⟶ 5:20: 14
second	• The *position* after *first*.	1st, **2nd** ...
semicircle	• A half *circle*.	
seventh	• The *position* after *sixth*.	1st, 2nd, 3rd, 4th, 5th, 6th, **7th** ...
shape	• The outline of an *area*.	
sharing	• Putting into equal *groups* or parts.	
shortest	• Having the *smallest length*.	
side	• One of the *lines* that form a *2D shape*.	
sixth	• The *position* after *fifth*.	1st, 2nd, 3rd, 4th, 5th, **6th** ...
size	• How big an object is.	
skip counting	• *Counting* by missing numbers following a certain *pattern*.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11
slide	• Move without changing *direction*.	

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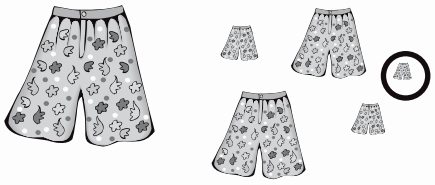
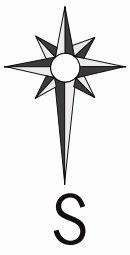
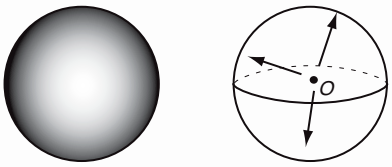
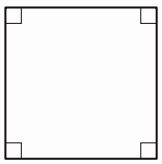
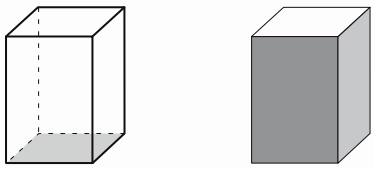
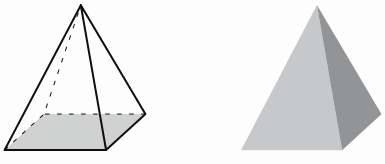
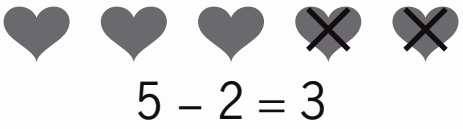
smallest	• The *least size*.	
smallest to largest	• Ranking in order from the *least* to the *greatest*.	
south	• A compass *direction*.	
sphere	• A set of *points* in space of *equal distance* from the central point.	
spring	• September, October and November. The *season after winter*.	
square	• A special *rectangle* with all *sides* of *equal length*.	
square prism	• A *3D shape*. Two identical square *bases*. All the other *faces* are *rectangles*.	
square pyramid	• A *3D shape*. One square *base*. All the other *faces* are *triangles*.	
straight line	• A continuous narrow mark.	
subtract	• To *take away* or *minus*.	

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sum

• The result when two or more numbers are *added*.

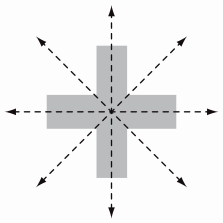
2 + 3 = 5

summer

• December, January, February. The *season after spring*.

symmetry

• When one *side* of a *shape* is the mirror image of the other.



Lines of symmetry

table

• Information organised in *columns* and *rows*.

Netball: Aust v NZ

NZ / Quarters	Shooting chances	Actual goals
1st	9	9
2nd	14	13
3rd	23	20
4th	18	17

take away

• To *subtract* or *minus*.

5 – 2 = 3

tally marks

• Marks used to help when counting large numbers. Drawn in bundles of 5.

𝍸 𝍸 𝍸 III = 18

tally table

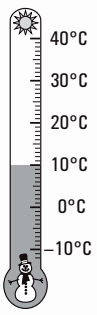
• Information represented in *columns* and *rows* using *tally marks* to count *totals*.

Lighthouse Survey

States	Tally	Number
Hawaii	𝍸 IIII	9
Maryland	𝍸	5
Virginia	III	3
Rhode Island	IIII	4

temperature

• How hot or cold a thing is.
• Temperature is measured in degrees Celsius (°C) with a *thermometer*.



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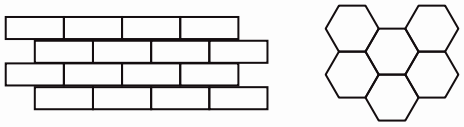
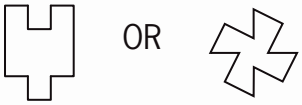
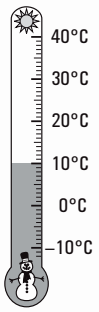
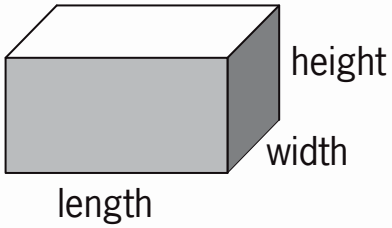
tens	• The *place value between* the *ones* and *hundreds*.	Place: Thousands 3, Hundreds 4, Tens 2, Ones 0 Value: 3000, 400, 20, 0
tesselate	• A repeated *shape* covering a large *area* with no gaps and no overlaps. Example: Brick wall, tiled floor	 Tessellating patterns  Tessellating shapes
thermometer	• An instrument used to *measure temperature*.	
third	• The *position* after *second*.	1st, 2nd, **3rd** ...
thousands	• The *place value between hundreds* and tens of thousands.	Place: Thousands 3, Hundreds 4, Tens 2, Ones 0 Value: 3000, 400, 20, 0
three dimensional (3D)	• Able to be measured in three *directions* namely *length*, *width* and *height*.	
time	• The progression from past to present to future.	

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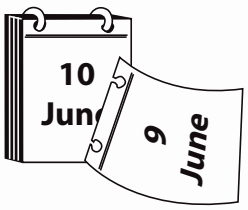
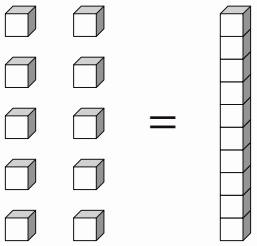
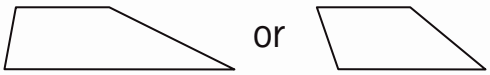
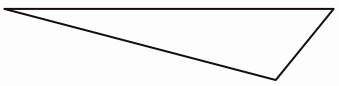
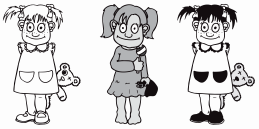
today	• This *day*.	 Today is the 10th of June.
tomorrow	• The *day after today*.	Tomorrow is the 11th of June.
total	• The *whole* lot. • The *sum* of two or more quantities.	$4 + 5 = 9$
trade	• 10 *minis* make 1 *long*.	
trapezium	• A special *2D shape*. • Two *opposite sides* are *parallel*.	
trial and error	• To try repeatedly and learn from mistakes.	
triangle	• A *2D shape* with 3 *sides*.	
triangular prism	• A *3D shape*. Two identical triangular *bases*. All the other *faces* are *rectangles*.	
triple	• *Multiply* by three.	 Children × 3 = triplets!

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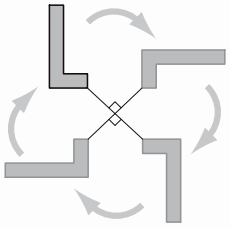
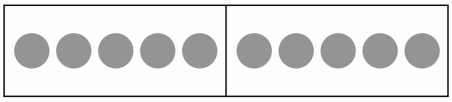
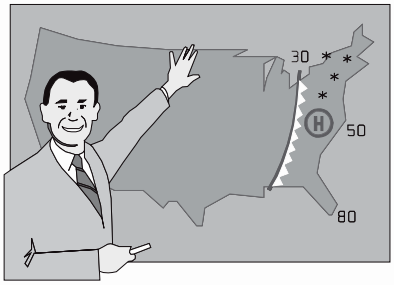
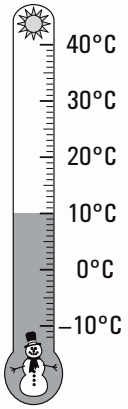
turn	• To *rotate* about a point.	
twenty-four hour time	• Time told in 24 hour lots using 4 *digits*.	Nine thirty am is 9:30 or 0930 Two thirty pm is 14:30 or1430
twice	• Two times.	 once twice
two dimensional (2D)	• Able to be measured in 2 *directions* (*length* and *width*).	width length
uncertain	• Not sure it will happen.	 It will rain tomorrow?
unit	• Another name for one. • The *smallest value between* two marks on a *scale*.	 40°C 30°C 20°C 10°C 0°C –10°C
units	• The *place value before tens*. Also called *ones*.	Place Thousands | Hundreds | Tens | Units 3 | 4 | 2 | 0 Value 3000 | 400 | 20 | 0

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units of measurement

• Standard *amount* or quantity.

Unit	Abbreviation	Examples	Used for measuring ...
• millimetre	mm	thickness of a plank of wood	LENGTH **distance** - length, width, height
• centimetre	cm	width of a photo frame	
• metre	m	length of a lap of a stadium	
• kilometre	km	distance between two cities	
• gram	g	weight of an egg	MASS **weight** - people, animals, objects
• kilogram	kg	weight of a bag of apples	
• millilitre	mL	liquid in a glass	CAPACITY **quantity** - liquids
• litre	L	liquid in a bucket	

unlikely

• Probably will not happen.

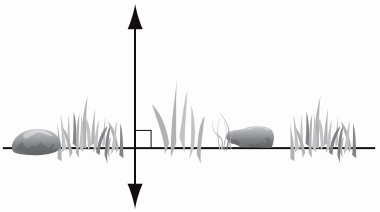
value

• The *amount* of worth.

5 cents

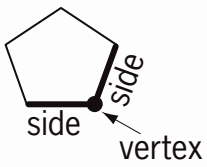
vertical line

• A l*ine* at *right angles* to the horizon.

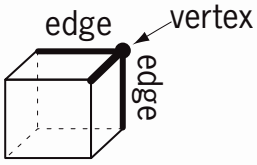


vertex

• (pl. **vertices**) The point at which two *sides* (of a *2D shape*) or three *edges* (of a *3D shape*) meet.



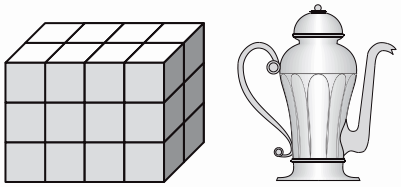
2D shape



3D shape

volume

• The *amount* of space that a *3D shape* occupies.



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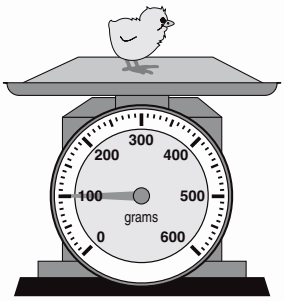
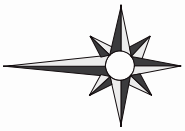
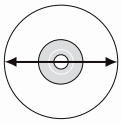
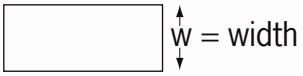
week	• A *unit* of *time* equal to 7 *days*: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday.	
weekday	• One of 5 *days*: Monday, Tuesday, Wednesday, Thursday or Friday. • The working days of the week.	
weekend	• Saturday and Sunday.	
weight	• The heaviness of an object.	
west	• A compass *direction*.	W 
whole	• All of something.	1 whole lemon
whole numbers	• *Zero* and the *counting numbers* from one to .... forever (infinity).	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ...
width	• How wide an object is. The sideways dimension.	 12 cm 

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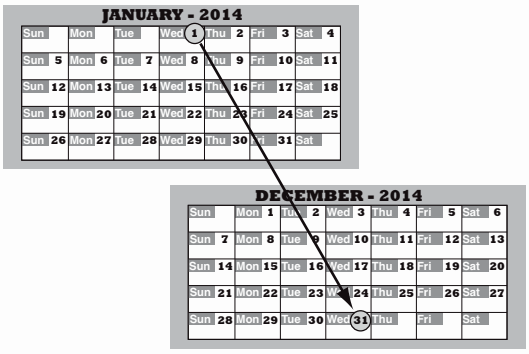
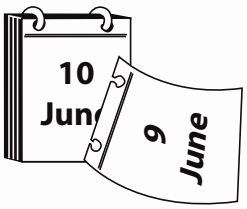
winter	• June, July, August. The *season after autumn*.	
year	• A *unit* of *time* equal to 365 *days*. (366 in a *leap year*).	
yesterday	• The *day before today*.	 Yesterday was the 9th of June.
zero	• Nothing, nought, nil.	

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SYMBOLS

plus or add

minus or subtract

times or multiply

divide

equal to

less than, $4 < 6$

greater than, $8 > 5$

fraction, one half

ABBREVIATIONS

am	anti meridiem (morning)
pm	post meridiem (afternoon, evening)
$	dollar
¢	cent
mm	millimetre
cm	centimetre
m	metre
km	kilometre
g	gram
kg	kilogram
mL	millilitre
L	litre
s	second
min	minute
h	hour

CONVERSIONS

Length

10 millimetres (mm) = 1 centimetre (cm)

100 cm =
1000 mm =] 1 metre (m)

1000 m = 1 kilometre (km)

Capacity

1000 millilitre (mL) = 1 litre (L)

Mass

1000 g = 1 kilogram (kg)

Time

60 seconds (s) = 1 minute (min)

60 minutes (min) = 1 hour (h)

24 hours (h) = 1 day

7 days = 1 week

2 weeks = 1 fortnight

4 weeks (approx.) = 1 month

365 =
52 weeks (approx.) =] 1 year
12 months =

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NUMBERS 1 TO 20

1	one	
2	two	
3	three	
4	four	
5	five	
6	six	
7	seven	
8	eight	
9	nine	
10	ten	
11	eleven	
12	twelve	
13	thirteen	
14	fourteen	
15	fifteen	
16	sixteen	
17	seventeen	
18	eighteen	
19	nineteen	
20	twenty	

EVEN NUMBERS FROM 1 TO 100

- end with **2**, **4**, **6**, **8** or **0**

1	**2**	3	**4**	5	**6**	7	**8**	9	**10**
11	**12**	13	**14**	15	**16**	17	**18**	19	**20**
21	**22**	23	**24**	25	**26**	27	**28**	29	**30**
31	**32**	33	**34**	35	**36**	37	**38**	39	**40**
41	**42**	43	**44**	45	**46**	47	**48**	49	**50**
51	**52**	53	**54**	55	**56**	57	**58**	59	**60**
61	**62**	63	**64**	65	**66**	67	**68**	69	**70**
71	**72**	73	**74**	75	**76**	77	**78**	79	**80**
81	**82**	83	**84**	85	**86**	87	**88**	89	**90**
91	**92**	93	**94**	95	**96**	97	**98**	99	**100**

ODD NUMBERS FROM 1 TO 100

- end with **1**, **3**, **5**, **7** or **9**

1	2	**3**	4	**5**	6	**7**	8	**9**	10
11	12	**13**	14	**15**	16	**17**	18	**19**	20
21	22	**23**	24	**25**	26	**27**	28	**29**	30
31	32	**33**	34	**35**	36	**37**	38	**39**	40
41	42	**43**	44	**45**	46	**47**	48	**49**	50
51	52	**53**	54	**55**	56	**57**	58	**59**	60
61	62	**63**	64	**65**	66	**67**	68	**69**	70
71	72	**73**	74	**75**	76	**77**	78	**79**	80
81	82	**83**	84	**85**	86	**87**	88	**89**	90
91	92	**93**	94	**95**	96	**97**	98	**99**	100

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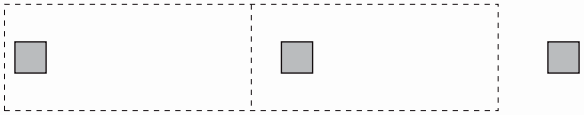
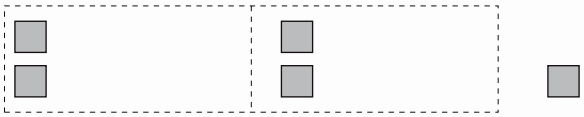
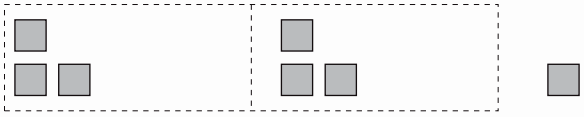
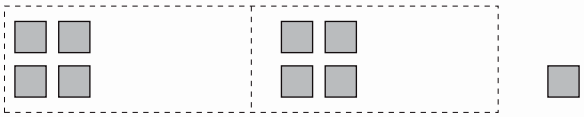
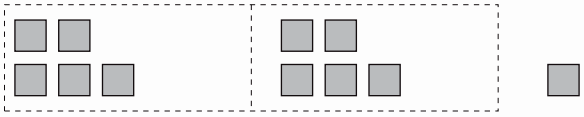
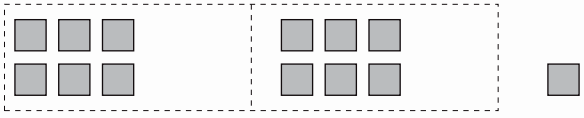
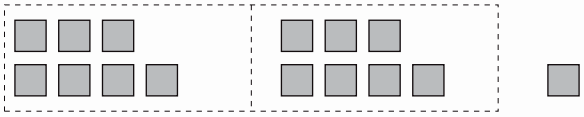
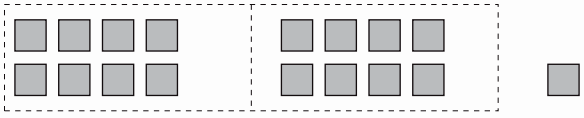
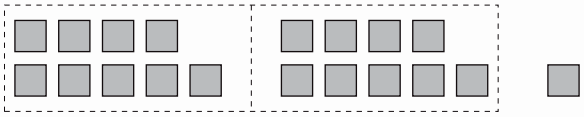
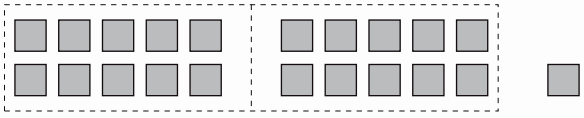
DOUBLES AND NEAR DOUBLES

DOUBLES		NEAR DOUBLES
$1 + 1 = 2$		$1 + 2 = 3$
$2 + 2 = 4$		$2 + 3 = 5$
$3 + 3 = 6$		$3 + 4 = 7$
$4 + 4 = 8$		$4 + 5 = 9$
$5 + 5 = 10$		$5 + 6 = 11$
$6 + 6 = 12$		$6 + 7 = 13$
$7 + 7 = 14$		$7 + 8 = 15$
$8 + 8 = 16$		$8 + 9 = 17$
$9 + 9 = 18$		$9 + 10 = 19$
$10 + 10 = 20$		$10 + 11 = 21$

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SKIP COUNTING BY 2

2, 4, 6, 8, 10
12, 14, 16, 18, 20

1	**2**	3	**4**	5	**6**	7	**8**	9	**10**
11	**12**	13	**14**	15	**16**	17	**18**	19	**20**
21	**22**	23	**24**	25	**26**	27	**28**	29	**30**
31	**32**	33	**34**	35	**36**	37	**38**	39	**40**
41	**42**	43	**44**	45	**46**	47	**48**	49	**50**
51	**52**	53	**54**	55	**56**	57	**58**	59	**60**
61	**62**	63	**64**	65	**66**	67	**68**	69	**70**
71	**72**	73	**74**	75	**76**	77	**78**	79	**80**
81	**82**	83	**84**	85	**86**	87	**88**	89	**90**
91	**92**	93	**94**	95	**96**	97	**98**	99	**100**

SKIP COUNTING BY 4

4, 8, 12, 16, 20
24, 28, 32, 36, 40

1	2	3	**4**	5	6	7	**8**	9	10
11	**12**	13	14	15	**16**	17	18	19	**20**
21	22	23	**24**	25	26	27	**28**	29	30
31	**32**	33	34	35	**36**	37	38	39	**40**
41	42	43	**44**	45	46	47	**48**	49	50
51	**52**	53	54	55	**56**	57	58	59	**60**
61	62	63	**64**	65	66	67	**68**	69	70
71	**72**	73	74	75	**76**	77	78	79	**80**
81	82	83	**84**	85	86	87	**88**	89	90
91	**92**	93	94	95	**96**	97	98	99	**100**

SKIP COUNTING BY 3

3, 6, 9, 12, 15, 18, 21, 24, 27, 30

1	2	**3**	4	5	**6**	7	8	**9**	10
11	**12**	13	14	**15**	16	17	**18**	19	20
21	22	23	**24**	25	26	**27**	28	29	**30**
31	32	**33**	34	35	**36**	37	38	**39**	40
41	**42**	43	44	**45**	46	47	**48**	49	50
51	52	53	**54**	55	56	**57**	58	59	**60**
61	62	**63**	64	65	**66**	67	68	**69**	70
71	**72**	73	74	**75**	76	77	**78**	79	80
81	82	83	**84**	85	86	**87**	88	89	**90**
91	92	**93**	94	95	**96**	97	98	**99**	100

SKIP COUNTING BY 6

6, 12, 18, 24, 30
36, 42, 48, 54, 60

1	2	3	4	5	**6**	7	8	9	10
11	**12**	13	14	15	16	17	**18**	19	20
21	22	23	**24**	25	26	27	28	29	**30**
31	32	33	34	35	**36**	37	38	39	40
41	**42**	43	44	45	46	47	**48**	49	50
51	52	53	**54**	55	56	57	58	59	**60**
61	62	63	64	65	**66**	67	68	69	70
71	**72**	73	74	75	76	77	**78**	79	80
81	82	83	**84**	85	86	87	88	89	**90**
91	92	93	94	95	**96**	97	98	99	100

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SKIP COUNTING BY 5

5, 10, 15, 20
25, 30, 35, 40
45, 50

1	2	3	4	**5**	6	7	8	9	**10**
11	12	13	14	**15**	16	17	18	19	**20**
21	22	23	24	**25**	26	27	28	29	**30**
31	32	33	34	**35**	36	37	38	39	**40**
41	42	43	44	**45**	46	47	48	49	**50**
51	52	53	54	**55**	56	57	58	59	**60**
61	62	63	64	**65**	66	67	68	69	**70**
71	72	73	74	**75**	76	77	78	79	**80**
81	82	83	84	**85**	86	87	88	89	**90**
91	92	93	94	**95**	96	97	98	99	**100**

SKIP COUNTING BY 10

10, 20, 30, 40, 50, 60, 70, 80, 90, 100

1	2	3	4	5	6	7	8	9	**10**
11	12	13	14	15	16	17	18	19	**20**
21	22	23	24	25	26	27	28	29	**30**
31	32	33	34	35	36	37	38	39	**40**
41	42	43	44	45	46	47	48	49	**50**
51	52	53	54	55	56	57	58	59	**60**
61	62	63	64	65	66	67	68	69	**70**
71	72	73	74	75	76	77	78	79	**80**
81	82	83	84	85	86	87	88	89	**90**
91	92	93	94	95	96	97	98	99	**100**

SKIP COUNTING BY 7

7, 14, 21, 28, 35, 42, 49, 56, 63, 70

1	2	3	4	5	6	**7**	8	9	10
11	12	13	**14**	15	16	17	18	19	20
21	22	23	24	25	26	27	**28**	29	30
31	32	33	34	**35**	36	37	38	39	40
41	**42**	43	44	45	46	47	48	**49**	50
51	52	53	54	55	**56**	57	58	59	60
61	62	**63**	64	65	66	67	68	69	**70**
71	72	73	74	75	76	**77**	78	79	80
81	82	83	**84**	85	86	87	88	89	90
91	92	93	94	95	96	97	**98**	99	100

SKIP COUNTING BY 8

8, 16, 24, 32, 40
48, 56, 64, 72, 80

1	2	3	4	5	6	7	**8**	9	10
11	12	13	14	15	**16**	17	18	19	20
21	22	23	**24**	25	26	27	28	29	30
31	**32**	33	34	35	36	37	38	39	**40**
41	42	43	44	45	46	47	**48**	49	50
51	52	53	54	55	**56**	57	58	59	60
61	62	63	**64**	65	66	67	68	69	70
71	**72**	73	74	75	76	77	78	79	**80**
81	82	83	84	85	86	87	**88**	89	90
91	92	93	94	95	**96**	97	98	99	100

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SKIP COUNTING BY 9

9, 18, 27, 36, 45, 54, 63, 72, 81, 90

1	2	3	4	5	6	7	8	**9**	10
11	12	13	14	15	16	17	**18**	19	20
21	22	23	24	25	26	**27**	28	29	30
31	32	33	34	35	**36**	37	38	39	40
41	42	43	44	**45**	46	47	48	49	50
51	52	53	**54**	55	56	57	58	59	60
61	62	**63**	64	65	66	67	68	69	70
71	**72**	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	**90**
91	92	93	94	95	96	97	98	**99**	100

PLACE VALUE

Place			
Thousands	Hundreds	Tens	Ones
3	*4*	*2*	*0*

Value			
3000	*400*	*20*	*0*

OPERATION TERMINOLOGY

Addition: sum, altogether, in total, more than
Subtraction: difference, less than, take away
Multiplication: product, times, lots of
Division: a fraction (half, third, quarter) of

ZERO 0

0 in words

Some of the words used to represent 0 are: nought, nil, none, nothing, zilch, zip.

Adding and subtracting 0

Adding and subtracting 0 to any number leaves the number unchanged.

$3 + 0 = 3$ $3 - 0 = 3$

Multiplying by 0

The product of any number and 0 is 0

$7 \times 0 = 0$

Dividing by 0

Dividing by 0 is meaningless.

$4 \div 0$ is a meaningless operation.

ONE 1

1 in words

Some of the words used to represent 1 are: one, a, an, each, single, unit.

1 as a fraction

$1 = \frac{2}{2}$ $1 = \frac{3}{3}$ $1 = \frac{4}{4}$ $1 = \frac{5}{5}$

Multiplying by 1

Any number multiplyed by 1 remains unchanged.

$3 \times 1 = 3$

Dividing by 1

Any number divided by 1 remains unchanged.

$7 \div 1 = 7$

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1 × Table

$1 \times \mathbf{1} = 1$
$2 \times \mathbf{1} = 2$
$3 \times \mathbf{1} = 3$
$4 \times \mathbf{1} = 4$
$5 \times \mathbf{1} = 5$
$6 \times \mathbf{1} = 6$
$7 \times \mathbf{1} = 7$
$8 \times \mathbf{1} = 8$
$9 \times \mathbf{1} = 9$
$10 \times \mathbf{1} = 10$
$11 \times \mathbf{1} = 11$
$12 \times \mathbf{1} = 12$

2 × Table

$1 \times \mathbf{2} = 2$
$2 \times \mathbf{2} = 4$
$3 \times \mathbf{2} = 6$
$4 \times \mathbf{2} = 8$
$5 \times \mathbf{2} = 10$
$6 \times \mathbf{2} = 12$
$7 \times \mathbf{2} = 14$
$8 \times \mathbf{2} = 16$
$9 \times \mathbf{2} = 18$
$10 \times \mathbf{2} = 20$
$11 \times \mathbf{2} = 22$
$12 \times \mathbf{2} = 24$

3 × Table

$1 \times \mathbf{3} = 3$
$2 \times \mathbf{3} = 6$
$3 \times \mathbf{3} = 9$
$4 \times \mathbf{3} = 12$
$5 \times \mathbf{3} = 15$
$6 \times \mathbf{3} = 18$
$7 \times \mathbf{3} = 21$
$8 \times \mathbf{3} = 24$
$9 \times \mathbf{3} = 27$
$10 \times \mathbf{3} = 30$
$11 \times \mathbf{3} = 33$
$12 \times \mathbf{3} = 36$

4 × Table

$1 \times \mathbf{4} = 4$
$2 \times \mathbf{4} = 8$
$3 \times \mathbf{4} = 12$
$4 \times \mathbf{4} = 16$
$5 \times \mathbf{4} = 20$
$6 \times \mathbf{4} = 24$
$7 \times \mathbf{4} = 28$
$8 \times \mathbf{4} = 32$
$9 \times \mathbf{4} = 36$
$10 \times \mathbf{4} = 40$
$11 \times \mathbf{4} = 44$
$12 \times \mathbf{4} = 48$

5 × Table

$1 \times \mathbf{5} = 5$
$2 \times \mathbf{5} = 10$
$3 \times \mathbf{5} = 15$
$4 \times \mathbf{5} = 20$
$5 \times \mathbf{5} = 25$
$6 \times \mathbf{5} = 30$
$7 \times \mathbf{5} = 35$
$8 \times \mathbf{5} = 40$
$9 \times \mathbf{5} = 45$
$10 \times \mathbf{5} = 50$
$11 \times \mathbf{5} = 55$
$12 \times \mathbf{5} = 60$

6 × Table

$1 \times \mathbf{6} = 6$
$2 \times \mathbf{6} = 12$
$3 \times \mathbf{6} = 18$
$4 \times \mathbf{6} = 24$
$5 \times \mathbf{6} = 30$
$6 \times \mathbf{6} = 36$
$7 \times \mathbf{6} = 42$
$8 \times \mathbf{6} = 48$
$9 \times \mathbf{6} = 54$
$10 \times \mathbf{6} = 60$
$11 \times \mathbf{6} = 66$
$12 \times \mathbf{6} = 72$

7 × Table

$1 \times \mathbf{7} = 7$
$2 \times \mathbf{7} = 14$
$3 \times \mathbf{7} = 21$
$4 \times \mathbf{7} = 28$
$5 \times \mathbf{7} = 35$
$6 \times \mathbf{7} = 42$
$7 \times \mathbf{7} = 49$
$8 \times \mathbf{7} = 56$
$9 \times \mathbf{7} = 63$
$10 \times \mathbf{7} = 70$
$11 \times \mathbf{7} = 77$
$12 \times \mathbf{7} = 84$

8 × Table

$1 \times \mathbf{8} = 8$
$2 \times \mathbf{8} = 16$
$3 \times \mathbf{8} = 24$
$4 \times \mathbf{8} = 32$
$5 \times \mathbf{8} = 40$
$6 \times \mathbf{8} = 48$
$7 \times \mathbf{8} = 56$
$8 \times \mathbf{8} = 64$
$9 \times \mathbf{8} = 72$
$10 \times \mathbf{8} = 80$
$11 \times \mathbf{8} = 88$
$12 \times \mathbf{8} = 96$

9 × Table

$1 \times \mathbf{9} = 9$
$2 \times \mathbf{9} = 18$
$3 \times \mathbf{9} = 27$
$4 \times \mathbf{9} = 36$
$5 \times \mathbf{9} = 45$
$6 \times \mathbf{9} = 54$
$7 \times \mathbf{9} = 63$
$8 \times \mathbf{9} = 72$
$9 \times \mathbf{9} = 81$
$10 \times \mathbf{9} = 90$
$11 \times \mathbf{9} = 99$
$12 \times \mathbf{9} = 108$

10 × Table

$1 \times \mathbf{10} = 10$
$2 \times \mathbf{10} = 20$
$3 \times \mathbf{10} = 30$
$4 \times \mathbf{10} = 40$
$5 \times \mathbf{10} = 50$
$6 \times \mathbf{10} = 60$
$7 \times \mathbf{10} = 70$
$8 \times \mathbf{10} = 80$
$9 \times \mathbf{10} = 90$
$10 \times \mathbf{10} = 100$
$11 \times \mathbf{10} = 110$
$12 \times \mathbf{10} = 120$

11 × Table

$1 \times \mathbf{11} = 11$
$2 \times \mathbf{11} = 22$
$3 \times \mathbf{11} = 33$
$4 \times \mathbf{11} = 44$
$5 \times \mathbf{11} = 55$
$6 \times \mathbf{11} = 66$
$7 \times \mathbf{11} = 77$
$8 \times \mathbf{11} = 88$
$9 \times \mathbf{11} = 99$
$10 \times \mathbf{11} = 110$
$11 \times \mathbf{11} = 121$
$12 \times \mathbf{11} = 132$

12 × Table

$1 \times \mathbf{12} = 12$
$2 \times \mathbf{12} = 24$
$3 \times \mathbf{12} = 36$
$4 \times \mathbf{12} = 48$
$5 \times \mathbf{12} = 60$
$6 \times \mathbf{12} = 72$
$7 \times \mathbf{12} = 84$
$8 \times \mathbf{12} = 96$
$9 \times \mathbf{12} = 108$
$10 \times \mathbf{12} = 120$
$11 \times \mathbf{12} = 132$
$12 \times \mathbf{12} = 144$

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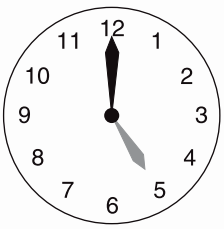
TIME

O'CLOCK



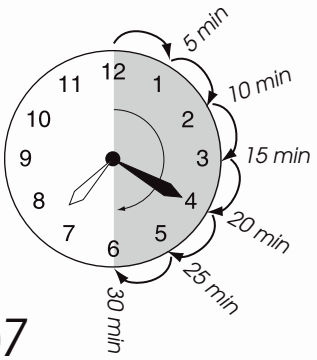
BIG HAND
on 12
LITTLE HAND
on the hour

five o'clock

5:00

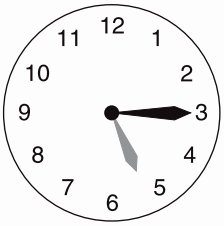
ANALOGUE - PAST

PAST -
big hand to the right



20 minutes past 7

A QUARTER PAST



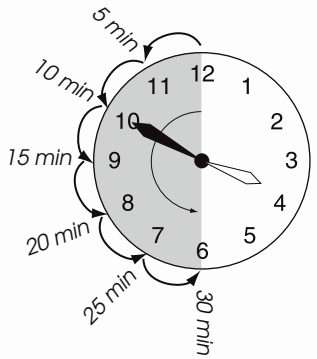
BIG HAND
on 3
LITTLE HAND
past the hour

a quarter past five

5: 15

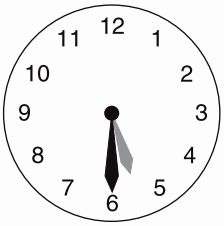
ANALOGUE - TO

TO -
big hand to the left



10 minutes to 4

HALF PAST

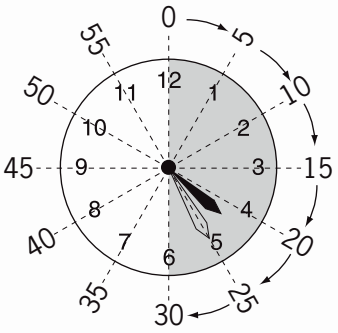


BIG HAND
on 6
LITTLE HAND
half way past
the hour

half past five

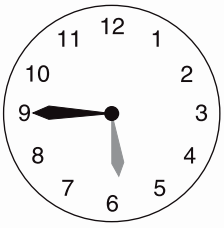
5:30

DIGITAL - PAST



4:25

A QUARTER TO

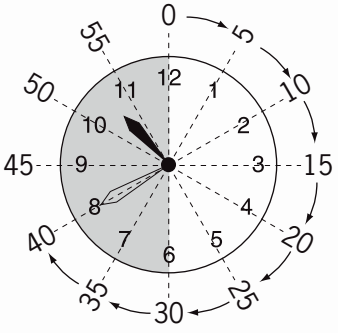


BIG HAND
on 9
LITTLE HAND
before the hour

a quarter to six

5:45

DIGITAL - TO



10:40

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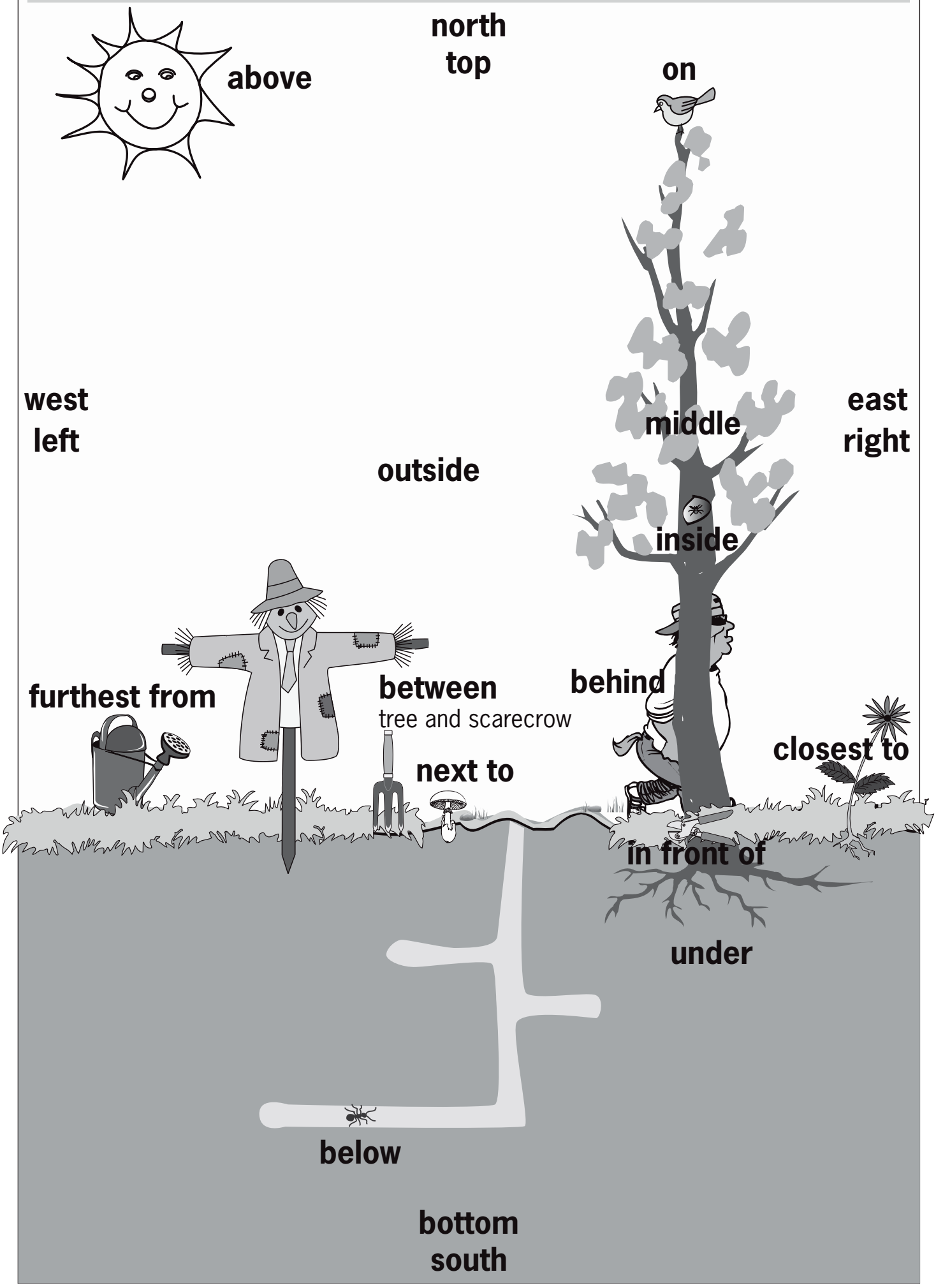
POSITION ... in reference to the tree



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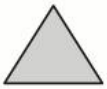
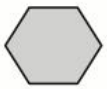
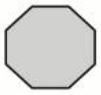
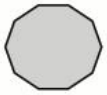
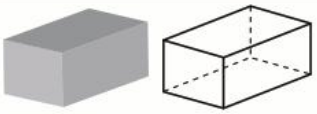
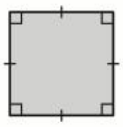
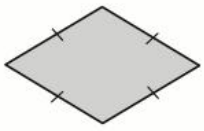
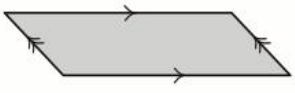
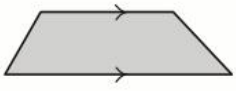
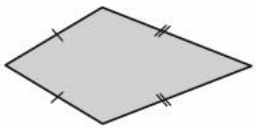
2D SHAPES

triangle 3 sides	
quadrilateral 4 sides	
pentagon 5 sides	
hexagon 6 sides	
heptagon 7 sides	
octagon 8 sides	
nonagon 9 sides	
decagon 10 sides	

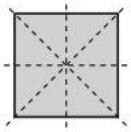
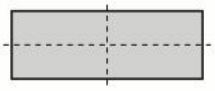
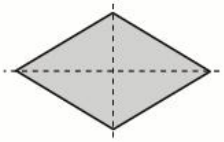
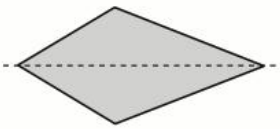
3D SHAPES

cube	
square prism	
rectangular prism	
triangular prism	
square pyramid	
cylinder	
cone	
sphere	

SPECIAL QUADRILATERALS

square	
rectangle	
rhombus	
parallelogram	
trapezium	
kite	

LINES OF SYMMETRY

square 4 lines of symmetry	
rectangle 2 lines of symmetry	
rhombus 2 lines of symmetry	
parallelogram 0 lines of symmetry	
trapezium 0 lines of symmetry	
kite 1 line of symmetry	

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1. [Counting] page 1

Skill 1.1 a) 7, b) 5, c) 6, d) 8, e) 10, f) 12, g) 11, h) 9

Skill 1.2 a) 12, 13, 14, b) 22, 23, 24, c) 43, 44, 45, d) 37, 38, 39
e) 50, 51, 52, f) 68, 69, 70, g) 71, 72, 73, h) 89, 90, 91
i) 17, 18, 19, j) 54, 55, 56, k) 85, 86, 87, l) 169, 170, 171
m) 120, 121, 122, n) 228, 229, 230, o) 126, 127, 128
p) 635, 636, 637

Skill 1.3 a) 28, 29, 30, 31, 32, 33, b) 7, 8, 9, 10, 11, 12
c) 9, 8, 7, 6, 5, 4, d) 18, 19, 20, 21, 22, 23
e) 76, 77, 78, 79, 80, 81, f) 15, 14, 13, 12, 11, 10
g) 43, 44, 45, 46, 47, 48, h) 94, 93, 92, 91, 90, 89
i) 304, 303, 302, 301, 300, j) 200, 201, 202, 203, 204
k) 417, 418, 419, 420, 421, l) 172, 171, 170, 169, 168
m) 189, 190, 191, 192, 193, n) 553, 552, 551, 550, 549
o) 1005, 1006, 1007, 1008, p) 5998, 5999, 6000, 6001

Skill 1.4 a) 2, 4, 6, 8, 10, b) 4, 8, 12, 16, 20, 24, c) 16, d) 35
e) 3, 6, 9, 12, 15, 18, f) 5, 10, 15, 20, 25, 30
g) 4, 8, 12, 16, 20, 24, h) 2, 4, 6, 8, 10 12
i) 5, 10, 15, 20, 25, 30, j) 3, 6, 9, 12, 15, 18

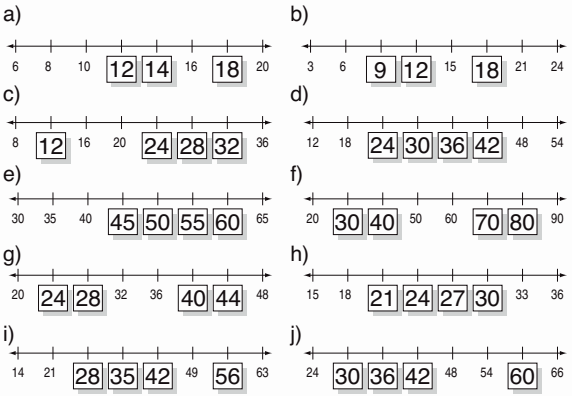
Skill 1.5 a) 68, 58, 48, 38, 28, 18, b) 10, 20, 30, 40, 50, 60
c) 43, 53, 63, 73, 83, 93, d) 57, 47, 37, 27, 17, 7
e) 22, 32, 42, 52, 62, 72, f) 60, 50, 40, 30, 20, 10
g) 18, 28, 38, 48, 58, 68, h) 99, 89, 79, 69, 59, 49
i) 800, 810, 820, 830, 840, j) 112, 122, 132, 142, 152
k) 560, 550, 540, 530, 520, l) 302, 312, 322, 332, 342
m) 2530, 2540, 2550, 2560, n) 1010, 1020, 1030, 1040
o) 200, 300, 400, 500, 600, p) 800, 700, 600, 500, 400
q) 500, 400, 300, 200, 100, r) 300, 400, 500, 600, 700
s) 100, 200, 300, 400, 500, t) 202, 302, 402, 502, 602
u) 700, 600, 500, 400, 300, v) 50, 150, 250, 350, 450
w)1000, 2000, 3000, 4000, x) 9000, 8000, 7000, 6000
y) 4000, 5000, 6000, 7000 z) 6000, 7000, 8000, 9000
A)5000, 4000, 3000, 2000, B) 8000, 7000, 6000, 5000
C)3000, 4000, 5000, 6000, D) 7000, 6000, 5000, 4000

Skill 1.6 a) 15, 20, 25, 30, 35, 40, 45, b) 6, 8, 10, 12, 14, 16, 18
c) 110, 120, 130, 140, 150, 160
d) 40, 44, 48, 52, 56, 60, 64, 68
e) 250, 260, 270, 280, 290, 300
f) 21, 24, 27, 30, 33, 36, 39, 42
g) 4, 8, 12, 16, 20, 24, 28, 32, h) 4, 6, 8, 10, 12, 14, 16
i) 10, 20, 30, 40, 50, 60, 70, j) 46, 48, 50, 52, 54, 56, 58, 60
k) 25, 30, 35, 40, 45, 50, 55, 60, l) 36, 39, 42, 45, 48, 51, 54

Skill 1.7 a) 4, 8, 12, 16, 20, 24, b) 6, 9, 12, 15, 18, 21
c) 12, 16, 20, 24, 28, 32, d) 15, 18, 21, 24, 27, 30
e) 20, 25, 30, 35, 40, 45, f) 28, 30, 32, 34, 36, 38
g) 33, 36, 39, 42, 45, 48, h) 50, 55, 60, 65, 70, 75
i) 20, 24, 28, 32, 36, 40, j) 46, 48, 50, 52, 54, 56
k) 16, 24, 32, 40, 48, 56, l) 18, 27, 36, 45, 54, 63
m) 18, 24, 30, 36, 42, 48, n) 14, 21, 28, 35, 42, 49
o) 35, 40, 45, 50, 55, 60, p) 32, 40, 48, 56, 64, 72
q) 90, 93, 96, 99, 102, r) 110, 115, 120, 125, 130
s) 204, 208, 212, 216, 220, t) 81, 90, 99, 108, 117
u) 120, 126, 132, 138, 144, v) 96, 98, 100, 102, 104
w)800, 808, 816, 824, 832, x) 112, 116, 120, 124, 128
y) 560, 565, 570, 575, 580, z) 108, 117, 126, 135, 144
A)70, 77, 84, 91, 98, B) 304, 308, 312, 316, 320
C)640, 648, 656, 664, 672, D) 360, 366, 372, 378, 384
E)198, 201, 204, 207, 210, F) 480, 485, 490, 495, 500

Skill 1.8 a) 55, (10), (48), 35, (26), 61, 107 b) (22), 13, 17, 45, 29, 41, (110)
c) 174, 20, 52, (35), 18, (81), 304 d) 22, 14, (37), 82, 16, (93), 138
e) 124, (27), (83), 16, 92, 108, 20 f) 135, (56), 97, (24), 19, 21, (78)
g) 18, h) 47, i) 41, j) 76, k) 33, l) 94, m) even, n) odd
o) odd, p) odd, q) even, r) odd
s) t) u) v) w) x)

Skill 1.9



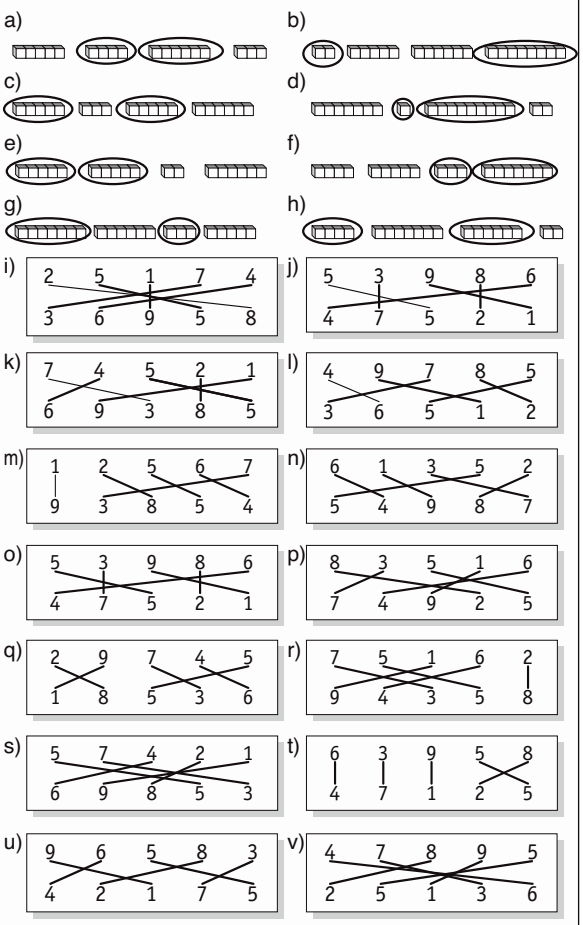
Skill 1.10 a) 63, b) 49, c) 56, d) 42, e) 6, 12, 18, 24, 30, 36
f) 9, 18, 27, 36, 45, 54, g) 7, 14, 21, 28, 35, 42
h) 8, 16, 24, 32, 40, 48, i) 9, 18, 27, 36, 45, 54
j) 7, 14, 21, 28, 35, 42, k) 8, 16, 24, 32, 40, 48
l) 6, 12, 18, 24, 30, 36

Skill 1.11 a) 23, b) 19, c) 19, d) 31, e) 40, f) 71, g) 21, h) 37, i) 77
j) 85, k) 110, l) 141, m) 203, n) 196, o) 243, p) 308

2. [Addition / Subtraction] page 15

Skill 2.1 a) 11, b) 7, c) 10, d) 13, e) 12, f) 11, g) 5 + 3 = 8
h) 3 + 6 = 9, i) 5 + 4 = 9, j) 4 + 7 = 11, k) 3 + 6 = 9
l) 8 + 4 = 12, m) 7 + 8 = 15, n) 9 + 5 = 14, o) 6 + 7 = 13
p) 7 + 5 = 12, q) 5 + 9 = 14, r) 8 + 3 = 11

Skill 2.2



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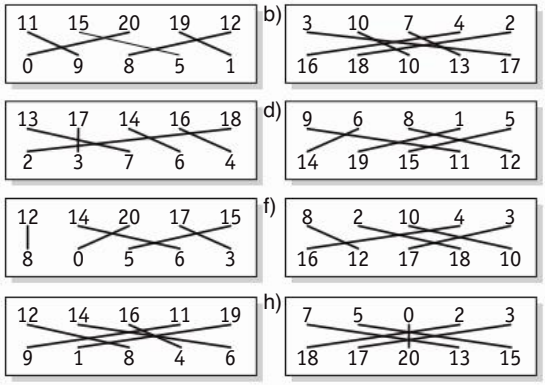
2. [Addition / Subtraction] (cont.)

Skill 2.3 a) ③+ 6 +⑦= 16, b) ⑤+ 9 +⑤= 19, c) 8 +④+⑥= 18
d) ①+⑨+ 3 = 13, e) 7 +⑨+①= 17, f) ⑧+ 5 +②= 15
g) ⑥+④+ 3 = 13, h) ⑦+ 1 +③= 11, i) 4 +⑤+⑤= 14
j) ②+⑧+ 6 = 16, k) ⑦+ 8 +③= 18, l) ④+⑥+ 9 = 19
m)①+ 6 + 2 +⑨= 18, n) ⑤+ 4 +⑤+ 3 = 17
o) 3 + 9 +④+⑥= 22, p) ④+ 9 +⑥+ 9 = 28
q) 6 +⑤+ 8 +⑤= 24, r) ②+ 7 + 6 +⑧= 23
s) 6 +⑦+③+ 8 = 24, t) 3 +④+⑥+ 9 = 22
u) 8 +⑨+ 7 +①= 25, v) 6 +⑤+⑤+ 6 = 22
w)5 +③+ 8 +⑦= 23, x) 6 +⑧+ 5 +②= 21
y) 4 +⑨+①+ 8 = 22, z)⑦+ 9 +③+ 5 = 24

Skill 2.4



Skill 2.5 a) 12, b) 14, c) 16, d) 11, e) 15, f) 17, g) 13, h) 19
i) 24 + 10 = 34, j) 49 + 100 = 149, k) 57 + 100 = 157
l) 143 + 10 = 153, m) 62 + 100 = 162, n) 38 + 100 = 138
o) 154 + 10 = 164, p) 65 + 100 = 165

Skill 2.6 a) 8, b) 6, c) 6, d) 9, e) 7, f) 7, g) 8, h) 10, i) 16, j) 14, k) 12
l) 14, m) 18, n) 17, o) 34, p) 24, q) 19, r) 33, s) 32, t) 45
u) 35, v) 47, w) 51, x) 52

Skill 2.7 a) 29, b) 57, c) 22, d) 56, e) 87, f) 69, g) 39, h) 67, i) 39
j) 55, k) 285, l) 200 + 10 + 5 = 215, m) 500 + 20 + 9 = 529
n) 500 + 30 + 3 = 533, o) 200 + 10 + 6 = 216
p) 500 + 30 + 7 = 537, q) 300 + 40 + 8 = 348
r) 500 + 50 + 4 = 554, s) 600 + 20 + 9 = 629
t) 900 + 0 + 8 = 908

Skill 2.8 a) 16 + 30 = 46, b) 27 + 22 = 49, c) 56 + 31 = 87
d) 36 + 53 = 89, e) 27 + 41 = 68, f) 48 + 32 = 80
g) 50 + 24 = 74, h) 46 + 42 = 88

Skill 2.9 a) 4, b) 2, c) 9, d) 5, e) 4, f) 9, g) 3, h) 7, i) 7, j) 5

Skill 2.10 a) 61, b) 92, c) 68 + 17 = 85, d) 34 + 57 = 91, e) 49 + 37 = 86
f) 46 + 28 = 74

Skill 2.11 a) 4, b) 2, c) 6, d) 1, e) 3, f) 5, g) 7 – 5 = 2, h) 9 – 6 = 3
i) 10 – 6 = 4, j) 12 – 7 = 5, k) 9 – 3 = 6, l) 8 – 4 = 4
m) 10 – 7 = 3, n) 8 – 6 = 2, o) 11 – 6 = 5, p) 12 – 8 = 4
q) 11 – 2 = 9, r) 14 – 9 = 5

Skill 2.12 a) 11, b) 14, c) 21, d) 12, e) 22, f) 32, g) 23, h) 12, i) 21, j) 32
k) 14, l) 11, m) 36, n) 21, o) 37 – 6 = 31, p) 59 – 8 = 51
q) 36 – 24 = 12, r) 49 – 22 = 27, s) 149 – 37 = 112
t) 155 – 32 = 123, u) 138 – 25 = 113, v) 174 – 33 = 141
w)167 – 54 = 113, x) 159 – 58 = 101

Skill 2.13 a) 2, b) 5, c) 3, d) 3, e) 4, f) 1, g) 3, h) 1, i) 7, j) 7, k) 8, l) 8
m) 17, n) 21, o) 19, p) 17, q) 26, r) 24, s) 29, t) 28, u) 37
v) 35

Skill 2.14 a) 8, b) 7, c) 8, d) 6, e) 6, f) 5, g) 5, h) 8, i) 9, j) 14, k) 12
l) 13, m) 16, n) 17, o) 18, p) 18, q) 17, r) 16, s) 16, t) 14

Skill 2.15 a) 17, b) 14, c) 19, d) 26, e) 18, f) 29, g) 17, h) 23, i) 9, j) 17
k) 16, l) 18

Skill 2.16 a) 9, b) 4, c) 8, d) 5, e) 5, f) 8, g) 4, h) 9

Skill 2.17 a) false, b) false, c) false, d) false, e) false, f) false

3. [Multiplication / Division] page 47

Skill 3.1 a) 4, b) 3, c) 4, d) 5, e) 6, f) 5, g) 7, h) 2

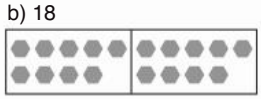
Skill 3.2 a) 3 groups of 8 = 24, b) 5 groups of 8 = 40
c) 2 groups of 4 = 8, d) 5 groups of 6 = 30
e) 3 groups of 7 = 21, f) 5 groups of 5 = 25
g) 8 groups of 3 = 24, h) 6 groups of 2 = 12
i) 4 groups of 8 = 32, j) 2 groups of 5 = 10
k) 3 groups of 9 = 27, l) 4 groups of 5 = 20
m) 4 groups of 4 = 16, n) 6 groups of 4 = 24

Skill 3.3 a) 6, b) 18, c) 20, d) 28, e) $5 \times 6 = 30$, f) $5 \times 7 = 35$
g) $2 \times 5 = 10$, h) $3 \times 7 = 21$, i) $3 \times 9 = 27$, j) $4 \times 6 = 24$
k) $3 \times 4 = 12$, l) $4 \times 10 = 40$, m) $2 \times 6 = 12$, n) $4 \times 8 = 32$
o) 16, p) 20, q) 30, r) 18, s) 45, t) $5 \times 7 = 35$, u) $3 \times 3 = 9$
v) $2 \times 3 = 6$, w) $3 \times 7 = 21$, x) $2 \times 10 = 20$, y) $4 \times 9 = 36$
z) $5 \times 8 = 40$, A) $6 \times 8 = 48$, B) $4 \times 8 = 32$, C) $8 \times 7 = 56$
D) $7 \times 9 = 63$, E) $4 \times 10 = 40$, F) $5 \times 2 = 10$

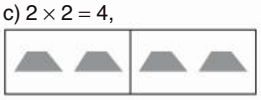
Skill 3.4 a) 21 paints, b) 36 lines, c) 18 windows, d) 15 planks
e) 30 books, f) 16 chairs, g) 21 drawers, h) 24 balls
i) 18 columns, j) 14 people, k) 30 gymnasts, l) 9 blades
m) 20 windows, n) 8 microphones

Skill 3.5 a) 2,

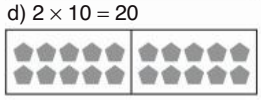
b) 18



c) $2 \times 2 = 4$,



d) $2 \times 10 = 20$



e) 14, f) 16, g) $2 \times 6 = 12$, h) $2 \times 3 = 6$, i) $2 \times 10 = 20$
j) $2 \times 12 = 24$

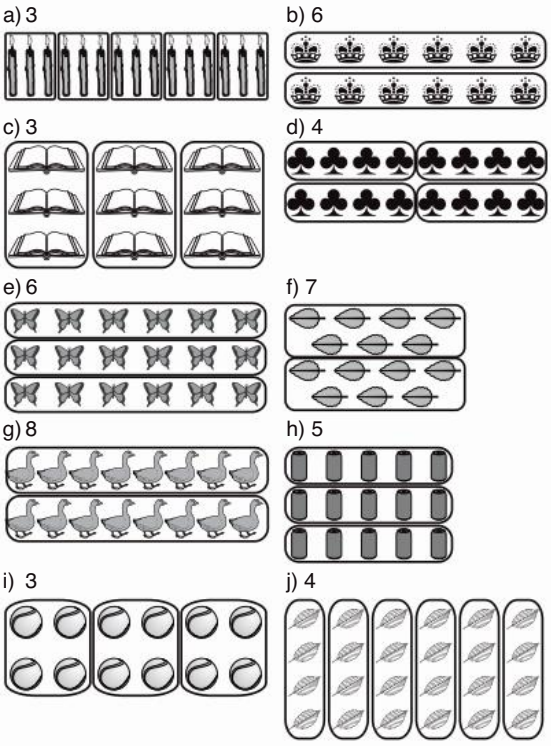
Skill 3.6 a) 40, b) 50, c) 20, d) 60, e) 80, f) 100, g) 70, h) 30, i) 80
j) 110, k) 250, l) 330, m) 300, n) 500, o) 200, p) 600
q) 900, r) 1200

Skill 3.7 a) 40, b) 18, c) 24, d) 54, e) 32, f) 49, g) 30, h) 45, i) 21
j) 27, k) 42, l) 64, m) 72, n) 30

Skill 3.8 a) 4, b) 5, c) 3, d) 7, e) 6, f) $6 \times 2 = 2 \times 6$, g) $4 \times 8 = 8 \times 4$
h) $8 \times 7 = 7 \times 8$

Skill 3.9 a) 80, 8, 88, b) 100, 10, 110, c) 30, 12, 42, d) 40, 28, 68
e) 30, 15, 45, f) 20, 12, 32

Skill 3.10



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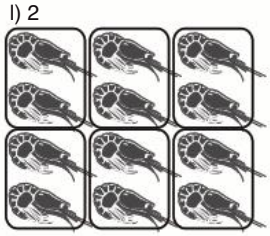
3. [Multiplication / Division] (cont.)

Skill 3.10

k) 3

l) 2

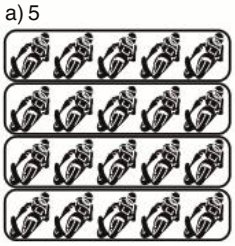


m) 4

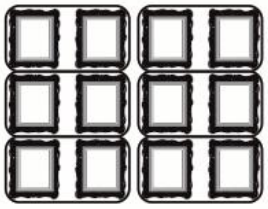
n) 2

Skill 3.11

a) 5



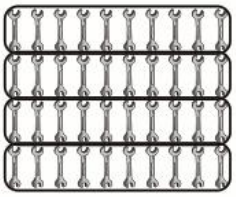
b) 2



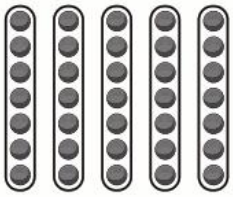
c) 6

d) 6

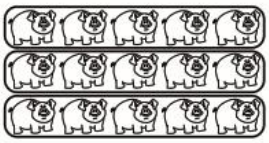
e) 10



f) 7

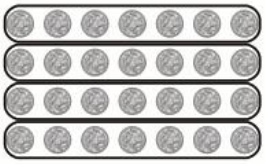


g) 5

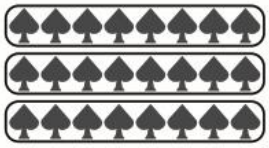


h) 4

i) 7



j) 8



Skill 3.12 a) 4, b) 3, c) 3, d) 8, e) 7, f) 6, g) 2, h) 8
i) $36 \div 3 = 12$, j) $40 \div 10 = 4$, k) $42 \div 6 = 7$, l) $36 \div 6 = 6$
m) $21 \div 7 = 3$, n) $28 \div 4 = 7$, o) $63 \div 9 = 7$, p) $35 \div 7 = 5$

Skill 3.13 a) 3, b) 6, c) 4, d) 3, e) 3, f) 3, g) 7, h) 4, i) 5, j) 5

Skill 3.14 a) 10, b) 5, c) 4, d) 8, e) 6, f) 5, g) $28 \div 4 = 7$, h) $27 \div 3 = 9$
i) $40 \div 5 = 8$, j) $35 \div 5 = 7$, k) $21 \div 3 = 7$, l) $20 \div 5 = 4$
m) $40 \div 4 = 10$, n) $25 \div 5 = 5$

Skill 3.15 a) 5, b) 5, c) 8, d) 6, e) 6, f) 8, g) 10, h) 7, i) 4, j) 8, k) 5
l) 6, m) 9, n) 3, o) 4, p) 5, q) 12, r) 7, s) 9, t) 7, u) 7, v) 5
w) 6, x) 7, y) 4, z) 3

Skill 3.16 a) 10 r 1, b) 4 r 2, c) 3 r 3, d) 2 r 5, e) 6 r 2, f) 7 r 5

Skill 3.17 a) 8, b) 5, c) 4, d) 4, e) 3, f) 2, g) 3, 12, 12, 12
h) 6, 54, 54, 9, i) 8, 8, 32, 4, j) 6, 24, 4, 24, k) 5, 50, 10, 50
l) 9, 9, 36, 4, m) 7, 7, 35, 7, n) 9, 27, 3, 27

4. [+ Whole Number] page 79

Skill 4.1 a) 14, b) 16, c) 7, d) 15, e) 13, f) 14, g) 13, h) 17, i) 15, j) 9
k) 13, l) 12, m) 9, n) 11, o) 13, p) 18, q) 15, r) 14, s) 12
t) 16

Skill 4.2 a) 13, b) 14, c) 9, d) 11, e) 12, f) 13
g) 5, 12, 6, 11, 9, h) 14, 12, 16, 13, 19, i) 18, 10, 15, 7, 31
j) 17, 9, 31, 22, 10, k) 21, 10, 33, 15, 26, l) 21, 13, 27, 20, 18

Skill 4.3 a) 16, b) 14, c) 11, d) 12, e) 13, 8, 10, 5, 11
f) 9, 15, 16, 10, 13, g) 11, 15, 17, 12, 10
h) 13, 17, 18, 14, 20, i) 13, 21, 25, 18, 20
j) 27, 22, 24, 29, 31

Skill 4.4 a) 15, b) 13, c) 5, 7, 9, 4, 3, d) 10, 14, 15, 12, 13
e) 9, 11, 12, 14, 10, f) 15, 18, 11, 19, 32
g) 32, 14, 45, 27, 23, h) 38, 21, 24, 32, 15

Skill 4.5 a) 15, b) 25, c) 23, d) 18, e) 21, f) 32, g) 21, 25, 16, 32, 23
h) 22, 31, 15, 13, 14, i) 14, 21, 23, 12, 31
j) 25, 16, 17, 33, 21

Skill 4.6 a) 13, b) 15, c) 18, d) 20, e) 19, f) 17, g) 16, h) 13, i) 24
j) 28, k) 27, l) 37, m) 35, n) 32, o) 36, p) 41, q) 46, r) 44

Skill 4.7 a) 38, b) 45, c) 47, d) 68, e) 50, f) 58, g) 41, h) 55, i) 83
j) 61, k) 65, l) 62

Skill 4.8 a) 59, b) 76, c) 88, d) 79, e) 68, f) 86, g) 386, h) 797, i) 779
j) 883, k) 549, l) 969, m) 469, n) 882, o) 786

Skill 4.9 a) 53, b) 72, c) 44, d) 61, e) 55, f) 65, g) 42, h) 74, i) 82
j) 790, k) 782, l) 733, m) 493, n) 438, o) 927, p) 646
q) 627, r) 621, s) 703, t) 605, u) 805, v) 651, w) 661, x) 706
y) 442, z) 440, A) 510, B) 701, C) 904, D) 864, E) 6701
F) 5604, G) 4648, H) 5451, I) 7801, J) 8602, K) 634
L) 731, M) 968, N) 9043, O) 5277, P) 9896, Q) 59 824
R) 81 228, S) 88 001

Skill 4.10 a) 5, b) 7, c) 8, d) 19, e) 16, f) 7, g) 17, h) 22, i) 8, j) 6
k) 24, l) 12

5. [– Whole Number] page 91

Skill 5.1 a) 8, b) 5, c) 12, d) 6, e) 7, f) 2, g) 11, h) 17, i) 26, j) 15
k) 7, l) 100, m) 25, n) 8, o) 14, p) 7, q) 24, r) 17, s) 13
t) 6

Skill 5.2 a) 9, b) 5, c) 14, d) 19, e) 27, f) 18
g) 5, 7, 4, 8, 9, h) 8, 1, 3, 7, 4, i) 3, 6, 8, 5, 7
j) 13, 17, 2, 9, 25, k) 6, 18, 20, 11, 9, l) 7, 6, 15, 4, 12

Skill 5.3 a) 5, b) 9, c) 15, d) 16, e) 10, 1, 7, 4, 5
f) 6, 3, 2, 7, 4, g) 3, 6, 5, 1, 8, h) 12, 24, 8, 13, 5
i) 22, 9, 14, 17, 13, j) 6, 8, 15, 20, 17

Skill 5.4 a) 6, b) 19, c) 16, d) 14, e) 26, f) 18
g) 3, 6, 9, 7, 4, h) 5, 7, 16, 18, 14
i) 14, 6, 3, 11, 8, j) 9, 16, 17, 15, 8

Skill 5.5 a) 6, b) 19, c) 6, 8, 4, 7, 2, d) 5, 3, 7, 4, 9
e) 2, 8, 0, 4, 1, f) 4, 8, 16, 22, 3, g) 14, 7, 9, 20, 2
h) 17, 15, 13, 2, 8

Skill 5.6 a) 9, b) 8, c) 8, d) 18, e) 8, 6, 1, 3, 10, f) 5, 1, 9, 4, 7
g) 10, 17, 12, 16, 13, h) 17, 11, 12, 14, 18

Skill 5.7 a) 24, b) 21, c) 26, d) 13, e) 34, f) 37, g) 35, h) 12, i) 15
j) 16, k) 23, l) 32

Skill 5.8 a) 33, b) 42, c) 22, d) 32, e) 12, f) 31, g) 17, h) 21, i) 33
j) 34, k) 23, l) 35, m) 43, n) 12, o) 45, p) 343, q) 15
r) 245, s) 272, t) 432, u) 311, v) 252, w) 251, x) 253
y) 244, z) 312, A) 331, B) 322, C) 153, D) 541, E) 414
F) 125, G) 155

Skill 5.9 a) 28, b) 18, c) 29, d) 17, e) 27, f) 36, g) 29, h) 35, i) 16
j) 34, k) 508, l) 335, m) 347, n) 315, o) 137, p) 126
q) 174, r) 253, s) 246, t) 175, u) 479, v) 291, w) 269, x) 78

Skill 5.10 a) 5, b) 7, c) 27, d) 28, e) 9, f) 8, g) 10, h) 11, i) 27, j) 16
k) 9, l) 34

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6. [× Whole Number] page 103

Skill 6.1 a) 40, b) 15, c) 60, d) 14, e) 10, f) 30, g) 18, h) 28, i) 12
j) 24, k) 18, l) 18, m) 20, n) 21, o) 90, p) 35, q) 12, r) 15
s) 60, t) 25

Skill 6.2 a) 10, b) 12, c) 24, d) 16, e) 32, f) 8, g) 12, h) 8, i) 16, j) 14
k) 20, l) 28, m) 6, 12, 10, 16, 8, n) 24, 8, 12, 20, 16

Skill 6.3 a) 15, b) 12, c) 3, d) 18, e) 6, f) 24, g) 21, h) 9, i) 30, j) 27
k) 33, l) 36, m) 15, 12, 3, 21, 27, n) 18, 9, 6, 24, 30

Skill 6.4 a) 25, b) 20, c) 5, d) 30, e) 10, f) 40, g) 35, h) 15, i) 50, j) 45
k) 55, l) 60, m) 25, 20, 5, 35, 45, n) 30, 15, 10, 40, 50

Skill 6.5 a) 24, b) 35, c) 64, d) 54, e) 28, f) 48, g) 24, h) 21, i) 14
j) 40, k) 30, 24, 6, 42, 54, l) 42, 7, 56, 49, 63
m) 56, 72, 16, 32, 80, n) 36, 18, 12, 48, 60

Skill 6.6 a) 45, b) 36, c) 9, d) 54, e) 18, f) 72, g) 63, h) 27, i) 90, j) 81
k) 99, l) 108, m) 18, 27, 63, 90, 81, n) 72, 9, 54, 36, 45

Skill 6.7 a) 180, b) 450, c) 200, d) 420, e) 560, f) 240, g) 180, h) 120
i) 240, j) 420, k) 20, 100, 40, 60, 50, l) 10, 90, 30, 70, 80

Skill 6.8 a) 40, b) 12, c) 25, d) 54, e) 35, f) 72, g) 28, h) 27, i) 16
j) 64, k) 18, l) 24, m) 48, n) 49, o) 56

Skill 6.9 a) 175, b) 256, c) 236, d) 140, e) 265, f) 648, g) 264, h) 138
i) 496, j) 148, k) 343, l) 234

Skill 6.10 a) 93, b) 44, c) 68, d) 96, e) 82, f) 48, g) 306, h) 242, i) 626
j) 868, k) 488, l) 309, m) 328, n) 981, o) 755, p) 936
q) 872, r) 840, s) 692, t) 872, u) 375, v) 860, w) 978
x) 510, y) 768, z) 519, A) 931, B) 944, C) 833, D) 928

Skill 6.11 a) 60, b) 72, c) 90, d) 56, e) 80, f) 36, g) 48, h) 48, i) 270
j) 280, k) 60, l) 120, m) 96, n) 360, o) 210

7. [÷ Whole Number] page 117

Skill 7.1 a) 10, b) 5, c) 3, d) 8, e) 6, f) 4, g) 7, h) 8, i) 9, j) 2, k) 6
l) 4, m) 6, n) 9, o) 7, p) 2, q) 6, r) 9, s) 4, t) 7

Skill 7.2 a) 5, b) 3, c) 6, d) 2, e) 8, f) 5, g) 4, h) 8, i) 1, j) 6, k) 3
l) 9, m) 7, n) 2, o) 4, p) 7, q) 10, r) 12

Skill 7.3 a) 4, b) 9, c) 6, d) 5, e) 3, f) 4, g) 6, h) 10, i) 7, j) 10, k) 9
l) 8, m) 6, n) 8, o) 5, p) 9, q) 5, r) 3, s) 9, t) 8, u) 3, v) 3
w) 8, 2, 10, 9, 5, x) 6, 4, 1, 9, 2, y) 2, 6, 10, 8, 9
z) 8, 2, 5, 9, 3, A) 2, 9, 3, 7, 4, B) 5, 7, 2, 4, 10
C)1, 3, 6, 10, 7, D) 9, 1, 4, 2, 6, E) 9, 3, 6, 1, 7
F) 7, 5, 2, 3, 10, G) 1, 8, 4, 6, 9, H) 5, 2, 6, 8, 4

Skill 7.4 a) 12, b) 32, c) 21, d) 9, e) 6, f) 9, g) 4, h) 9, i) 6, j) 301
k) 102, l) 234, m) 301, n) 122, o) 201, p) 231, q) 412, r) 101

Skill 7.5 a) 6, b) 3, c) 16, d) 28, e) 8, f) 5, g) 2, h) 4, i) 21, j) 36, k) 10
l) 30, m) 24, n) 7, o) 5, p) 8, q) 4, r) 40, s) 30, t) 27, u) 80
v) 21, w) 2, x) 6, y) 8, z) 7, A) 32, B) 24, C) 55, D) 63

8. [Word Problems] page 125

Skill 8.1 a) 14 + 18 = 32, b) 32 + 34 = 66, c) 27 + 14 = 41
d) 20 + 45 = 65, e) 1500 + 290 = 1790, f) 660 + 290 = 950
g) 63 + 29 = 92, h) 68 + 999 = 1067

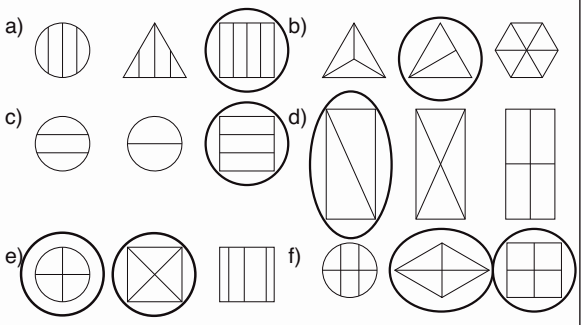
Skill 8.2 a) 56 – 26 = 30, b) 108 – 70 = 38, c) 16 – 8 = 8
d) 33 – 26 = 7, e) 530 – 420 = 110, f) 57 – 25 = 32
g) 225 – 121 = 104, h) 1003 – 503 = 500

Skill 8.3 a) 10 × 28 = 280, b) 4 × 8 = 32, c) 7 × 50¢ = $3.50
d) 9 × 6 = 54, e) 40 × 2 = 80, f) 3 × 8 = 24
g) 9 × 3 = 27, h) 90 × 2 = 180

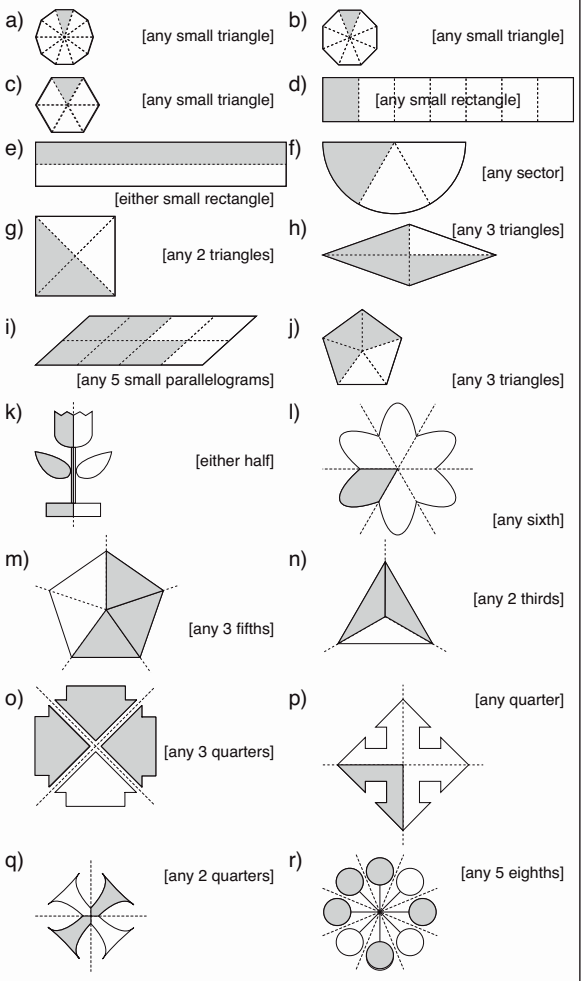
Skill 8.4 a) 1000 ÷ 2 = 500, b) 720 ÷ 8 = 90, c) 48 ÷ 12 = 4
d) 180 ÷ 20 = 9, e) 18 ÷ 3 = 6, f) 30 ÷ 9 = 3 remainder 3
answer = 4 minibuses
g) 21 ÷ 7 = 3, h) 32 ÷ 8 = 4

9. [Fractions] page 129

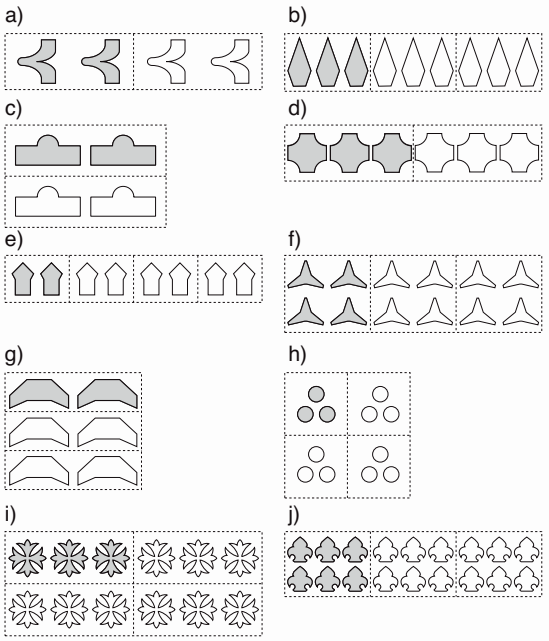
Skill 9.1



Skill 9.2



Skill 9.3



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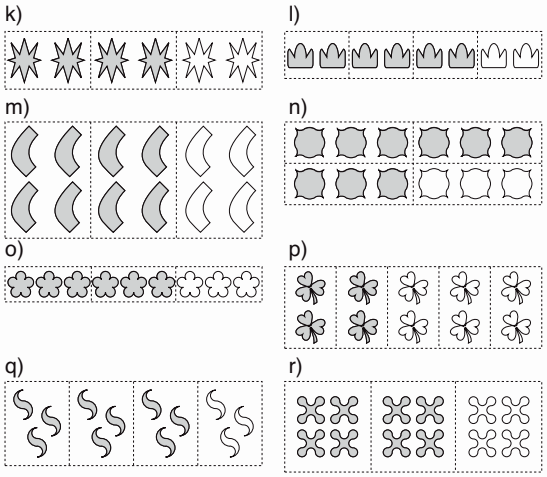
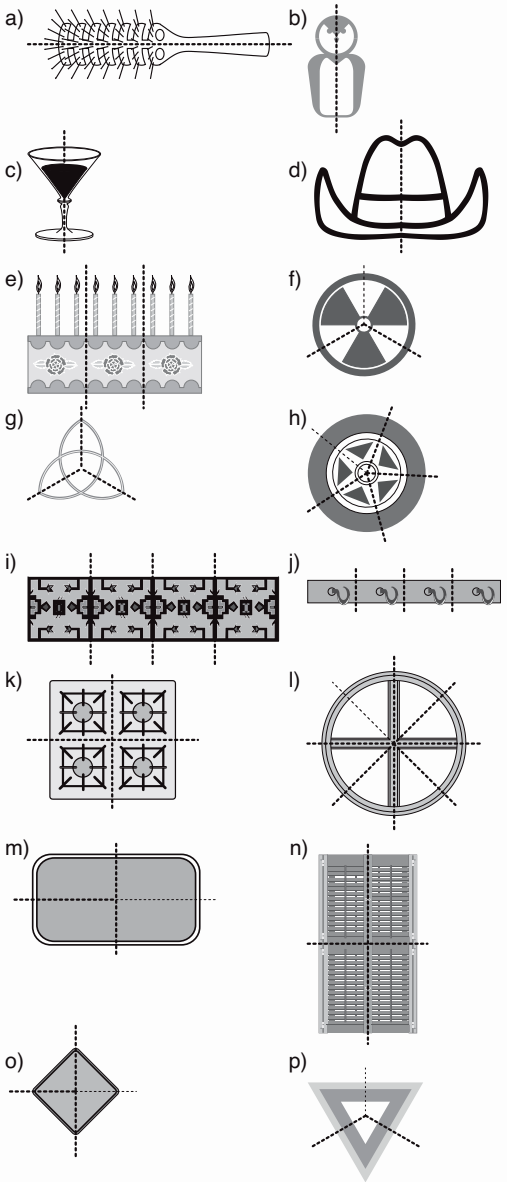
9. [Fractions] (cont.)

Skill 9.3



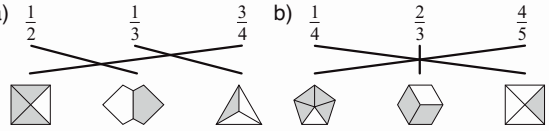
Skill 9.4



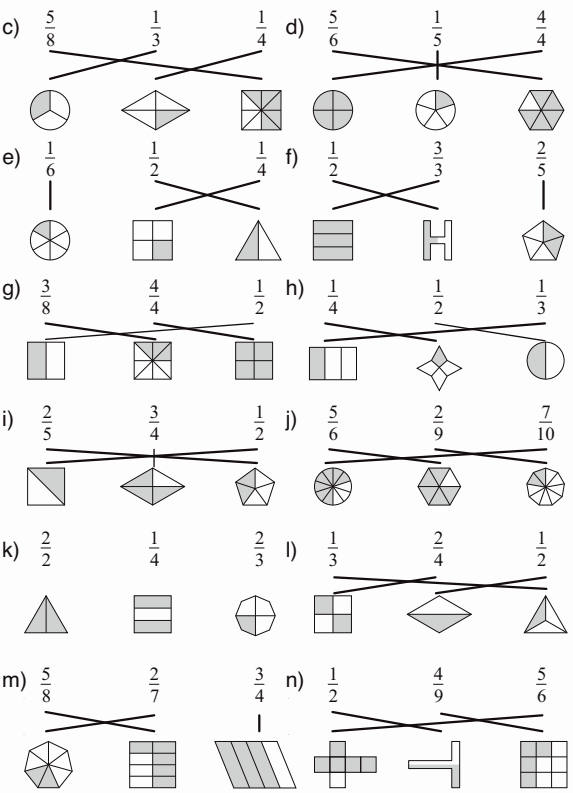
Skill 9.5 a) $\frac{1}{2}$, b) $\frac{1}{2}$, c) $\frac{1}{3}$, d) $\frac{1}{4}$, e) $\frac{1}{4}$, f) $\frac{3}{4}$, g) $\frac{3}{4}$, h) $\frac{2}{3}$

Skill 9.6 a) 4 out of 7, b) 3 out of 5, c) 3 out of 4, d) 2 out of 5
e) $\frac{3}{4}$, f) $\frac{3}{7}$, g) $\frac{5}{6}$, h) $\frac{5}{9}$

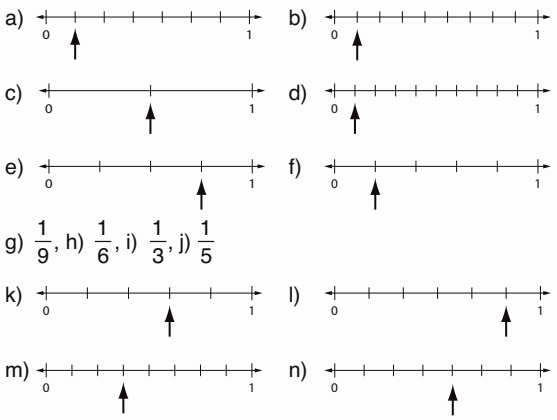
Skill 9.7 a) $\frac{1}{2}$ $\frac{1}{3}$ $\frac{3}{4}$ b) $\frac{1}{4}$ $\frac{2}{3}$ $\frac{4}{5}$



Skill 9.7 c) $\frac{5}{8}$ $\frac{1}{3}$ $\frac{1}{4}$ d) $\frac{5}{6}$ $\frac{1}{5}$ $\frac{4}{4}$
e) $\frac{1}{6}$ $\frac{1}{2}$ $\frac{1}{4}$ f) $\frac{1}{2}$ $\frac{3}{3}$ $\frac{2}{5}$
g) $\frac{3}{8}$ $\frac{4}{4}$ $\frac{1}{2}$ h) $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{3}$
i) $\frac{2}{5}$ $\frac{3}{4}$ $\frac{1}{2}$ j) $\frac{5}{6}$ $\frac{2}{9}$ $\frac{7}{10}$
k) $\frac{2}{2}$ $\frac{1}{4}$ $\frac{2}{3}$ l) $\frac{1}{3}$ $\frac{2}{4}$ $\frac{1}{2}$
m) $\frac{5}{8}$ $\frac{2}{7}$ $\frac{3}{4}$ n) $\frac{1}{2}$ $\frac{4}{9}$ $\frac{5}{6}$



Skill 9.8



g) $\frac{1}{9}$, h) $\frac{1}{6}$, i) $\frac{1}{3}$, j) $\frac{1}{5}$

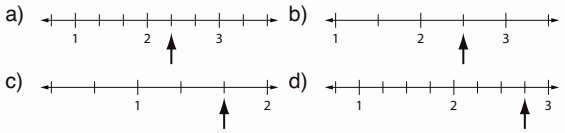
o) $\frac{1}{4}$, p) $\frac{3}{7}$, q) $\frac{5}{8}$, r) $\frac{4}{9}$, s) $\frac{3}{5}$, t) $\frac{7}{10}$

Skill 9.9 a) $\frac{6}{12}$, b) $\frac{6}{9}$, c) $\frac{4}{12}$, d) $\frac{3}{6}$, e) $\frac{2}{5}$, f) $\frac{1}{3}$, g) $\frac{3}{12}$, h) $\frac{9}{18}$, i) $\frac{6}{15}$
j) $\frac{12}{16}$, k) $\frac{4}{10}$, l) $\frac{12}{20}$, m) $\frac{3}{4}$, n) $\frac{1}{4}$, o) $\frac{1}{3}$, p) $\frac{6}{8}$

Skill 9.10 a) <, b) >, c) =, d) >, e) $\frac{5}{7}$, f) $\frac{5}{6}$

Skill 9.11 a) $\frac{1}{2}$, b) $\frac{1}{2}$, c) $\frac{1}{4}$, d) $\frac{1}{6}$, e) $\frac{3}{5}$, f) $\frac{2}{7}$, g) $\frac{5}{8}$, h) $\frac{3}{10}$, i) $\frac{1}{5}$, j) $\frac{8}{10}$

Skill 9.12

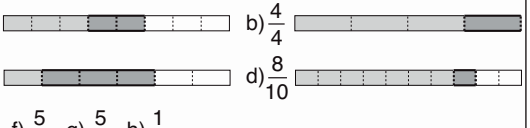


e) $2\frac{1}{4}$, f) $1\frac{1}{3}$, g) $3\frac{3}{4}$, h) $4\frac{5}{6}$

Skill 9.13 a) $1\frac{1}{4}$, b) $2\frac{1}{5}$, c) $1\frac{1}{2}$, d) $1\frac{1}{3}$, e) $1\frac{2}{5}$, f) $2\frac{2}{3}$, g) $2\frac{3}{5}$, h) $1\frac{4}{5}$

Skill 9.14 a) >, b) >, c) <, d) >, e) <, f) <

Skill 9.15 a) $\frac{5}{8}$ b) $\frac{4}{4}$ c) $\frac{4}{6}$ d) $\frac{8}{10}$



e) $\frac{3}{8}$, f) $\frac{5}{7}$, g) $\frac{5}{9}$, h) $\frac{1}{6}$

Skill 9.16 a) $\frac{3}{8}$, b) $\frac{3}{5}$, c) $\frac{6}{7}$, d) $\frac{9}{10}$, e) $\frac{7}{11}$, f) $\frac{5}{6}$, g) $\frac{2}{4}$, h) $\frac{8}{9}$, i) $\frac{10}{12}$, j) $\frac{4}{7}$
k) $\frac{6}{9}$, l) $\frac{5}{12}$, m) $\frac{1}{6}$, n) $\frac{7}{9}$, o) $\frac{9}{11}$, p) $\frac{3}{4}$, q) $\frac{1}{10}$, r) $\frac{2}{5}$

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10. [Place Value] page 151

Skill 10.1 a) 25, b) 67, c) 58, d) 719, e) 846, f) 634
g) 2 tens 7 ones = 27, h) 8 tens 4 ones = 84
i) 3 tens 6 ones = 36, j) 5 tens 9 ones = 59, k) 521
l) 9 hundreds 0 tens 3 ones = 903
m) 7 hundreds 1 ten 4 ones = 714, n) 1325, o) 1234, p) 1448

Skill 10.2 a) 147, b) 205, c) 400, d) 562, e) 371, f) 840, g) 619
h) 904, i) 1200, j) 3402, k) 8700, l) 6004, m) 9020, n) 4530
o) 2190, p) 4605, q) 7050, r) 8924

Skill 10.3 a) 4 tens 5 ones, b) 5 tens 1 one, c) 6 tens 2 ones
d) 3 tens 9 ones, e) 2 hundreds 2 tens 8 ones
f) 5 hundreds 8 tens 3 ones, g) 4 hundreds 7 tens 6 ones
h) 9 hundreds 0 tens 1 one

i)

H	T	O
1	5	6

j)

H	T	O
7	4	9

k)

Th	H	T	O
6	8	1	5

l)

Th	H	T	O
2	7	0	3

Skill 10.4 a) 64, b) 52, c) 80, d) 713, e) 437, f) 165, g) 802, h) 940
i) 4585, j) 7822, k) 1369, l) 5067, m) 3107, n) 6250

Skill 10.5 a) 483 = 400 + 80 + 3, b) 928 = 900 + 20 + 8
c) 614 = 600 + 10 + 4, d) 750 = 700 + 50 + 0
e) 345 = 300 + 40 + 5, f) 826 = 800 + 20 + 6
g) 219 = 200 + 10 + 9, h) 470 = 400 + 70 + 0
i) 6257 = 6000 + 200 + 50 + 7
j) 3142 = 3000 + 100 + 40 + 2
k) 1875 = 1000 + 800 + 70 + 5
l) 8390 = 8000 + 300 + 90 + 0
m) 5742 = 5000 + 700 + 40 + 2
n) 6113 = 6000 + 100 + 10 + 3

Skill 10.6 a) 2, b) 3, c) 8, d) 4, e) 6, f) 8, g) 3, h) 0, i) ⑦5 1 , j) 2⑧4
k) 4 8③, l) ⑤1 4 9 , m) 1⑧3 6 , n) ⑥2 4 0

Skill 10.7 a) A, b) B, c) C, d) A, e) B, f) C, g) A, h) B, i) B, j) A, k) A
l) A

Skill 10.8 a) true, b) false, c) false, d) false, e) false, f) false, g) <
h) >, i) >, j) <, k) >, l) >, m) >, n) <, o) <, p) <

Skill 10.9 a) 73, b) 94, c) 742, d) 368, e) 168, f) 974, g) 1235
h) 9753, i) 9742, j) 1256, k) 938, l) 725, m) 6742, n) 5816
o) 6850, p) 4952

Skill 10.10 a) 3, 11, 13, 31, b) 87, 71, 17, 8, 7, c) 604, 406, 66, 46
d) 29, 90, 92, 200, 209, e) 311, 128, 75, 40, 32
f) 9, 13, 38, 124, 521, g) 54, 56, 456, 465, 546
h) 321, 312, 231, 123, i) 8431, 4183, 3148, 1384
j) 4748, 7408, 8070, 8870

Skill 10.11 a) 154, (151), 15, 145, 155, 105 b) 310, 389, 292, 305, (301), 203
c) 403, d) 495, e) 5320, f) 2370, g) 6350, h) 7020, i) 7500
j) 2100, k) 12 300, l) 15 400, m) 10 500, n) 21 500

11. [Word Numbers] page 165

Skill 11.1 a) 15, b) 27, c) 51, d) 84, e) 10, f) 90, g) 604, h) 306, i) 500
j) 800, k) 215, l) 197, m) 718, n) 967, o) 9000, p) 8000
q) 1005, r) 2001, s) 1052, t) 1300, u) 8024, v) 2308
w) 4547, x) 7806, y) 25 000, z) 63 000, A) 10 096, B) 51 013
C) 40 800, D) 15 330, E) 21 315, F) 14 675, G) 900 000
H) 600 000, I) 105 000, J) 830 000, K) 390 000, L) 600 420
M) 7 000 000, N) 4 000 000, O) 2 900 000, P) 5 100 000

Skill 11.2 a) eleven, b) fifteen, c) nineteen, d) thirty-eight, e) sixty-four
f) fifty-nine, g) eighty-one, h) ninety-three, i) twenty
j) seventy, k) forty-four, l) eighteen, m) fifty, n) thirty

Skill 11.3 a) four hundred, b) one hundred and one
c) two hundred and seven, d) six hundred
e) one hundred and sixty-one, f) seven hundred and eight
g) three hundred and twelve, h) eight hundred and fifty
i) five hundred and fourteen, j) four hundred and seventy
k) nine hundred and eighty, l) two hundred and sixty-six
m) three hundred and six, n) two hundred and twenty

Skill 11.4 a) five thousand, b) seven thousand and two
c) two thousand and sixty, d) eight thousand
e) one thousand and twenty-six, f) three thousand and ten
g) two thousand and forty-three, h) four thousand and thirty-five
i) five thousand and three, j) nine thousand, two hundred
k) six thousand and eighty, l) one thousand, seven hundred
m) one thousand and forty, n) eight thousand, six hundred

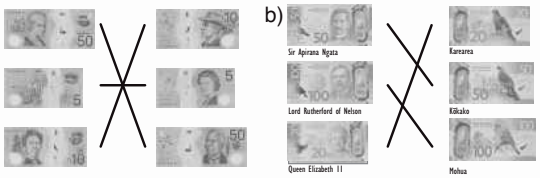
Skill 11.5 a) twenty-six thousand, b) fifty-four thousand
c) ninety-seven thousand, d) forty thousand, two hundred
e) fifty thousand, six hundred, f) thirty-nine thousand
g) eighty-four thousand, two hundred
h) twenty thousand and fifty
i) twelve thousand, six hundred
j) ten thousand and seventy, k) fifty thousand and thirty
l) ten thousand, four hundred

12. [Money] page 173

Skill 12.1 a) 100 cents, b) 2 dollars, c) 50 cents, d) 20 cents
e) f)

g) h)

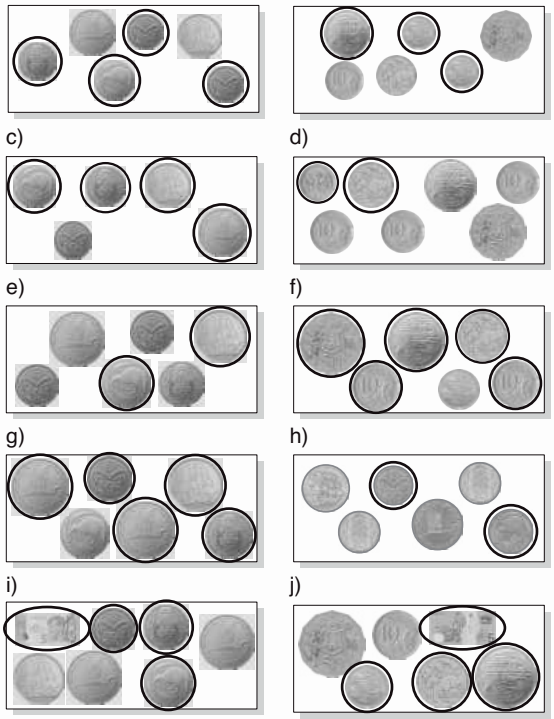
Skill 12.2 a) b)



c) 20 dollars, d) 100 dollars, e) 50 dollars, f) 5 dollars, g) B
h) C, i) B, j) C, k) B, l) A, m) B, n) C

Skill 12.3 a) 70¢, b) 50¢, c) 120¢, d) $1.10, e) $2.60, f) $3.20, g) $2.20
h) $4.50, i) $6.50, j) $107, k) $30.20, l) $25.10, m) $60.50
n) $51.60, o) $10.80, p) $73.10, q) $17.50, r) $100.90

Skill 12.4 a) b)



c) d)

e) f)

g) h)

i) j)

Skill 12.5 a) A, b) B, c) C, d) B, e) C, f) B, g) B, h) A, i) C, j) B, k) A
l) A

Skill 12.6 a) 2, b) 4, c) 9, d) 15, e) 5, f) 7, g) 20, h) 4, i) 10, j) 20
k) 13, l) 8, m) 10, n) 15, o) 30, p) 25

Skill 12.7 a) 40¢, b) $5, c) $8, d) 40¢, e) 60¢, f) 30¢, g) $15, h) $55

Skill 12.8 a) $40, b) $50, c) $36, d) $1650, e) $21, f) $42, g) $18.50
h) $150, i) $33, j) $48.50, k) 90¢, l) 180¢, m) 220¢, n) 70¢
o) 90¢, p) $2.10, q) 80¢, r) $2.10, s) $6.50, t) 115¢
u) $61.80, v) $8.60, w) $4.20, x) $9.20, y) $7, z) $10.50

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13. [Number Patterns] page 187

Skill 13.1 a) 19, 22, b) 14, 16, c) 110, 120, d) 65, 75, e) 22, 24
f) 44, 48, g) 22, 25, h) 31, 37, i) 43, 49, j) 49, 52, k) 73, 78
l) 41, 46, m) 46, 50, n) 45, 47, o) 62, 68, p) 13, 15
q) 57, 67, r) 44, 52, s) 47, 55, t) 52, 62, u) 62, 64, v) 72, 80
w) 24, 27, x) 47, 51, y) 38, 43, z) 62, 66

Skill 13.2 a) 20, 15, b) 18, 8, c) 14, 12, d) 47, 45, e) 33, 30, f) 17, 14
g) 16, 10, h) 39, 35, i) 15, 13, j) 9, 3, k) 33, 27, l) 18, 12
m) 18, 10, n) 25, 15, o) 14, 7, p) 19, 14, q) 14, 6, r) 33, 23
s) 25, 18, t) 22, 17, u) 9, 2, v) 9, 1, w) 40, 32, x) 15, 6
y) 10, 3, z) 10, 2

Skill 13.3 a) 17, 19, b) 17, 22, c) 16, 17, d) 21, 25, e) 23, 28
f) 16, 18, g) 16, 20, h) 23, 28, i) 17, 20, j) 18, 23, k) 24, 30
l) 16, 17, m) 22, 25, n) 19, 20

Skill 13.4 a) 6, 1, b) 6, 5, c) 8, 3 , d) 10, 6, e) 9, 4, f) 7, 4, g) 7, 2
h) 20, 18, i) 10, 8, j) 9, 4, k) 11, 10, l) 12, 6

Skill 13.5 a) 240, b) 162, c) 480, d) 405, e) 324, f) 729, g) 810
h) 1620, i) 625, j) 10 000, k) 50 000, l) 6250, m) 2500
n) 70 000

14. [Time] page 195

Skill 14.1 a) Tuesday, b) Sunday, c) Monday, d) Thursday
e) Wednesday, f) Wednesday, g) Thursday, h) Friday
i) Friday, j) Sunday, k) Friday, l) Tuesday, m) Saturday
n) Thursday

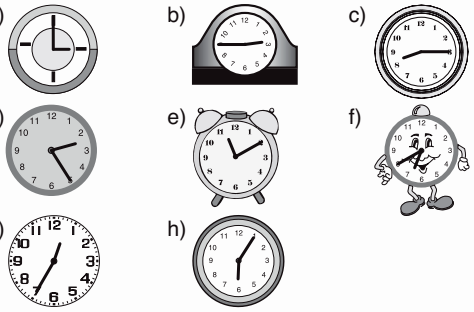
Skill 14.2 a) 4, b) 5, c)

d) 22, e) Monday, f) 13/4/2021

Skill 14.3 a) February, b) 31, c) September, d) autumn, e) 29, f) 30
g) summer, h) spring, i) November, j) July, k) 31, l) 12

Skill 14.4 a) past, b) to, c) past, d) to, e) past, f) to, g) past, h) past
i) past, j) to, k) to, l) to, m) past, n) past

Skill 14.5 a) b) c)



d) e) f)

g) h)

Skill 14.6 a) A, b) A, c) B, d) B, e) C, f) A, g) C, h) C, i) C, j) A
k) 5:00 am, l) 11:30 am, m) 11:25 am, n) 12:15 pm
o) 10:20 am, p) 4:05 am, q) 10:49 am, r) 4:47 pm, s) true
t) false, u) false, v) false, w) true, x) true

Skill 14.7 a) ten o'clock, b) nine fifteen OR a quarter past nine
c) three twenty-four OR twenty-four past three
d) one twenty-five OR twenty-five past one
e) four forty-five OR a quarter to five
f) six forty-five OR a quarter to seven
g) a quarter past eight OR eight fifteen
h) ten to twelve OR eleven fifty
i) twenty-five to ten OR nine thirty-five
j) twenty past ten OR ten twenty
k) a quarter past seven OR seven fifteen
l) twenty past eleven OR eleven twenty
m) seven twenty OR twenty past seven
n) eight ten OR ten past eight
o) five forty OR twenty to six
p) four fifty-two OR eight to five
q) eleven fifty-five OR five to twelve
r) five twenty OR twenty past five
s) a quarter to one OR twelve forty-five
t) ten past five OR five ten
u) five past three OR three O five
v) twenty to two OR one forty

Skill 14.7 w) two thirty-five OR twenty-five to three
x) twelve eighteen OR eighteen past twelve
y) five to two OR one fifty-five
z) twelve past six OR six twelve

Skill 14.8 a) 8:00 pm, b) 6 minutes, c) Bolts & Blip, d) 6 hours
e) 12 days, f) 2

Skill 14.9 a) 1 week, b) 120 seconds, c) 28 days, d) 3 hours
e) 48 hours, f) 180 seconds

g) 30 minutes, **3 hours**, 300 seconds

h) 3 hours, **150 minutes**, 1 day

i) 1 year, 300 days, **60 weeks**

j) 30 hours, 1 week, **1 day**

k) **300 seconds**, 6 minutes, 2 days

l) 3 weeks, 14 days, **1 month**

m) 600 seconds, n) 300 seconds, o) 6 minutes, p) 10 hours
q) 360 minutes, r) 720 minutes, s) 2 weeks, t) 40 weeks
u) 35 days, v) 10 days, w) 72 hours, x) 70 days

y) **2 days**, 40 hours, 200 minutes

z) 4 weeks, 1 month, **21 days**

15. [Measuring] page 211

Skill 15.1 a) A, b)

c) A, d) C, e) B, f) A

g)

h) B, i) C, j) A, k) C, l) B
m) C, n) A, o) A, p) B, q) A, r) A

Skill 15.2 a) B, b) C, c) A, d) C, e) A, f) C, g) A, h) B, i) B, j) A, k) B
l) C, m) C, n) A, o) 1500 g, p) 2700 g, q) 60 g, r) 660 g
s) 130 g, t) 405 g

Skill 15.3 a) B, b) A, c) A, d) B, e) B, f) C, g) B, h) C, i) B, j) C, k) B
l) C, m) A, n) 45 L, o) 8, p) 170 mL, q) 52 mL, r) 705 mL

Skill 15.4 a) A, b) A, c) A, d) C, e) B, f) C, g) C, h) B, i) A, j) B

Skill 15.5 a) B, b) C, c) C, d) B, e) A, f) A, g) B, h) A, i) B, j) A

Skill 15.6 a) 5 cm, b) 7 cm, c) 4 cm, d) 5 cm, e) 7 cm, f) 6 cm
g) 45 mm, h) 25 mm

Skill 15.7 a) 3 cm, b) 7 cm, c) 45 mm, d) 60 mm, e) 2 m, f) 3 cm
g) 2 m, h) 2 m, i) 5 m, j) 4 cm, k) 2 cm, l) 1 mL, m) 8 L
n) 7 mL, o) 9 mL, p) 40 mL, q) 600 g, r) 200 g, s) 5 kg
t) 2 kg, u) 90 kg, v) 50 kg

Skill 15.8 a) 16 cm, b) 14 cm, c) 12 cm, d) 14 cm, e) 18 cm, f) 12 cm
g) 14 cm, h) 14 cm, i) 18 cm, j) 16 cm

Skill 15.9 a) 6 cm^2, b) 9 cm^2, c) 14 cm^2, d) 10 cm^2, e) 12 cm^2
f) 13 cm^2, g) 16 cm^2, h) 20 cm^2, i) 16 cm^2, j) 104 cm^2, k) A
l) C, m) C, n) A, o) B, p) C

Skill 15.10 a) C, b) B, c) D, d) C, e) B, f) C

Skill 15.11 a) B, b) D, c) A, d) B, e) C, f) A

Skill 15.12 a) C, b) B, c) A, d) B, e) C, f) A

Skill 15.13 a) 30 cm, b) 12 m, c) 80 m, d) 11 mm, e) 22 cm, f) 12 m

Skill 15.14 a) 12 cm^2, b) 9 cm^2, c) 10 cm^2, d) 12 cm^2

Skill 15.15 a) 70°, b) 40°, c) 80°, d) 115°, e) 140°, f) 90°, g) 45°
h) 120°, i) 25°, j) 65°, k) 110°, l) 35°

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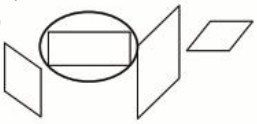
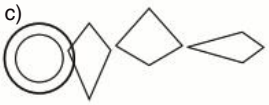
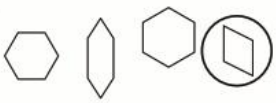
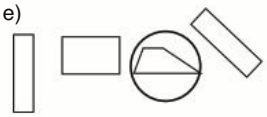
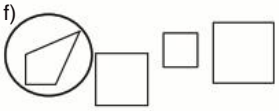
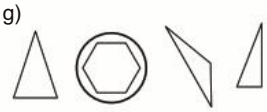
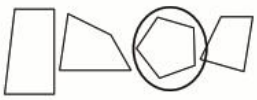
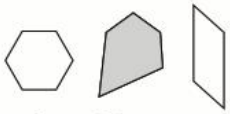
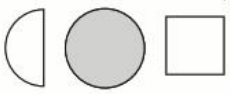
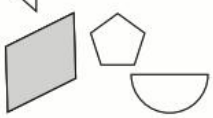
16. [Shapes] page 235

Skill 16.1 a) b)
c) d)
e) f)
g) h)

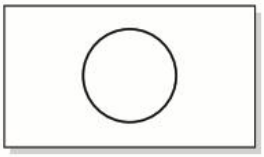
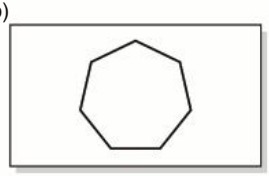
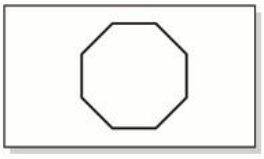
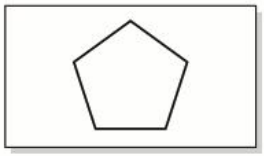
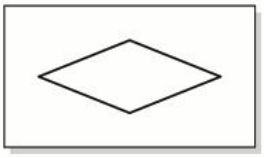
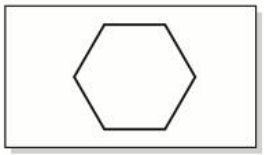
i) cylinder, j) sphere, k) cube, l) cylinder
m) rectangular prism, n) triangular prism, o) pyramid
p) rectangular prism, q) cylinder, r) cone

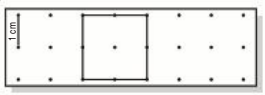
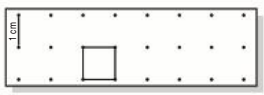
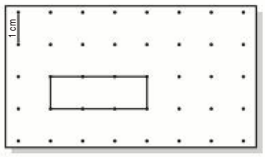
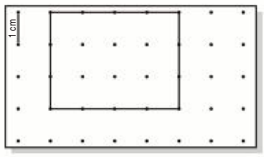
Skill 16.2 a) b) 
c)  d) 
e)  f) 
g)  h) 

Skill 16.3 a) 12, b) 6, c) 6, d) 5, e) 6, f) triangle, g) square, h) triangle

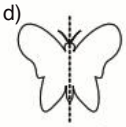
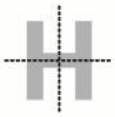
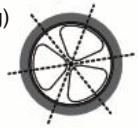
Skill 16.4 a)  b)
c)  d) 

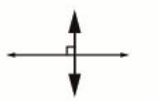
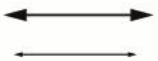
e) heptagon, f) hexagon, g) square, h) rhombus
i) circle and triangle, j) kite and triangle
k) square and pentagon, l) trapezium and rectangle
m) square and rhombus, n) parallelogram and rectangle
o) hexagon and parallelogram, p) rhombus and triangle

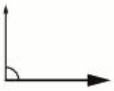
Skill 16.5 a)  b) 
c)  d) 
e)  f) 

Skill 16.5 g)  h) 
i)  j) 

Skill 16.6 a) 4, b) 4, c) 3, d) 5, e) 6, f) 8, g) 9, h) 4, i) 4, j) 10

Skill 16.7 a) b) c)
d)  e) f) 
g)  h) i)
j)

Skill 16.8 a) B, b) C, c) A, d) C
e) f) 
g) h) 

Skill 16.9 a) A, b) C
c) d)
e) f) 

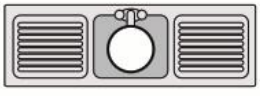
Skill 16.10 a) B, b) A, c) A, d) A, e) B, f) A

Skill 16.11 a) C, b) C, c) A, d) B, e) A, f) B

Skill 16.12 a) C, b) B, c) D, d) C, e) A, f) C, g) C, h) B

17. [Location] page 249

Skill 17.1 a) in front of, b) inside, c) on, d) under, e) behind, f) below
g) on, h) inside, i) under, j) outside, k) behind, l) above
m) inside, n) on

Skill 17.2 a) b)
c) d) 
e) f)

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Skill 17.3 a) white, b) candy cane, c) Oliver Hardy, d) John Landy
e) Michael Jackson, f) cactus, g) Albert

h)

i)

j)

k)

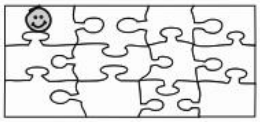
l)

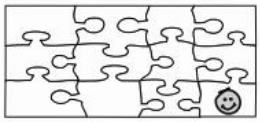
m)

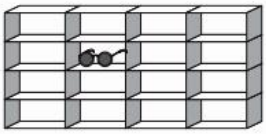
n)

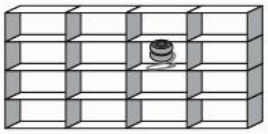
Skill 17.4 a) Activity Shelter, b) Myanmar, c) ballroom, d) Yahoo
e) coffee table, f) R2-D2, g) Prime Minister
h) Tomorrow Land, i) Pele, j) Egyptian Mummies
k) Atlantic Ocean, l) B

Skill 17.5 a) fish, b) 9, c) Rebecca, d) snail, e) Jay, f) Cee

g) 

h) 

i) 

j) 

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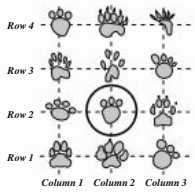
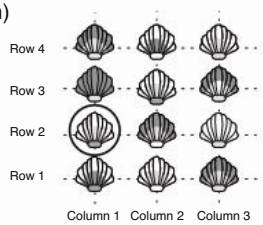
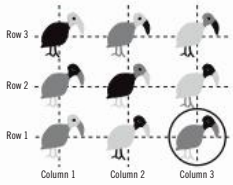
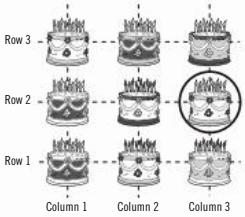
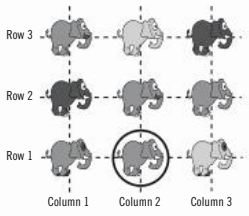
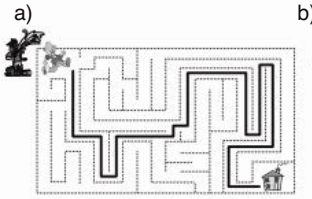
l) 

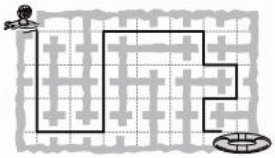
m) 

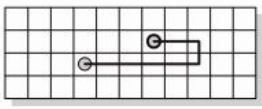
n) 

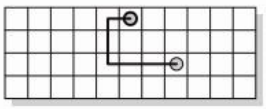
o) 

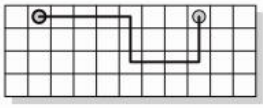
p) 

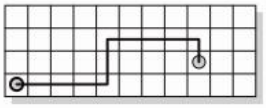
Skill 17.6 a) 

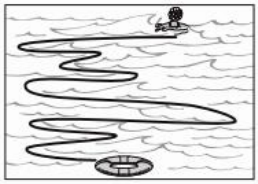
b) 

c) 

d) 

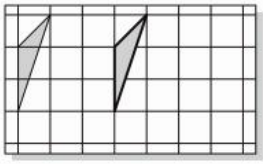
e) 

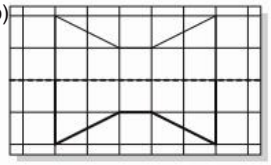
f) 

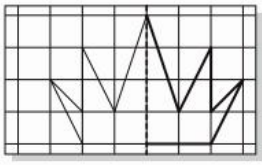
g) 

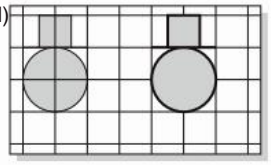
h) Hervey St, i) cinema, j) 3

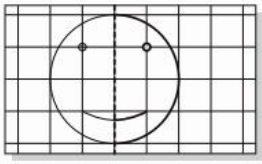
Skill 17.7 a) turn, b) flip, c) turn, d) slide, e) flip, f) turn, g) slide
h) turn

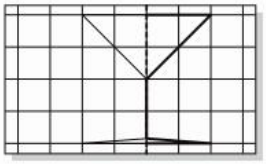
Skill 17.8 a) 

b) 

c) 

d) 

e) 

f) 

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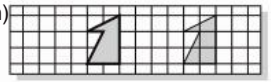
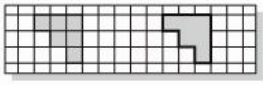
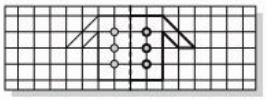
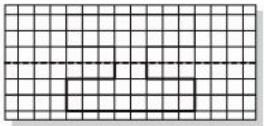
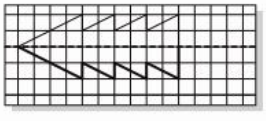
h) 

i) 

j) 

k) 

l) 

Skill 17.9 a) rectangle, b) tie, c) snake, d) X, e) Canada
f) Maiden Gully, g) 415, h) D, i) A, j) B, k) B, l) C
m) B, n) D, o) A2, p) D4, q) E5, r) A3, s) D2, t) C3

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18. [Statistics / Probability] page 269

Skill 18.1 a) 5, b) 3, c) Australian Rules Football, d) Iris

Skill 18.2 a) 4, b) 5, c) 9, d) 13, e) 6, f) 10

g) 𝍸

h) 𝍸 𝍸 I

i)

Number	Tally
7	𝍸 II

j)

Number	Tally
12	𝍸 𝍸 II

k)

Tally	Number
𝍸 III	8

l)

Tally	Number
𝍸 𝍸 IIII	14

Skill 18.3 a)

Vehicle Type Passing School

Vehicle	Tally	Number
Sedan	𝍸 IIII	9
Station Wagon	𝍸 I	6
Minivan	III	3
Convertible	𝍸	5

b)

People per square kilometre

Country	Tally	Number
Norway	𝍸 𝍸 IIII	14
Bolivia	𝍸 II	7
PNG	𝍸 𝍸	10
Iceland	III	3

c)

Drive - a - thon

Driver	Lap Tally	Number
F. Alonso	𝍸 III	8
G. Fisichella	𝍸 𝍸 I	11
A. Suzuki	𝍸 IIII	9
M. Schumacher	𝍸 I	6

d)

Frequency of 2, 3, 4, 5 as factors of the numbers 1 to 10

Factor	Tally	Number
2	𝍸	5
3	III	3
4	II	2
5	II	2

e)

Books in a series

Series	Tally	Number
Underland Chronicles	𝍸	5
Deltora Quest	𝍸 III	8
Mary Poppins	𝍸 II	7
The Bliss Bakery	III	3

f)

Eyelets in shoes

Shoe Type	Tally	Number
Runner	𝍸 𝍸 IIII	14
Boat shoe	IIII	4
School shoe	𝍸 III	8
Men's dress shoe	𝍸 𝍸	10

g)

Days of rain in May 2019

City	Tally	Number
Canberra	IIII	4
Perth	𝍸 IIII	9
Brisbane	𝍸 III	8
Adelaide	𝍸 𝍸 III	13

h)

Average sunlight hours per day in Paris

Month	Tally	Number
January	II	2
April	𝍸 I	6
July	𝍸 III	8
October	IIII	4

i) 20

j) 13

Total goals in the 2019 AFL grandfinal

Quarter	Tally	Number
1st	III	3
2nd	𝍸	5
3rd	𝍸 I	6
4th	𝍸 I	6

'Honorificabilitudinitatibus'

Vowel	Tally	Number
a	II	2
i	𝍸 II	7
o	II	2
u	II	2

k) 16

l) 42

'Supercalifragilisticexpialidocious'

Vowel	Tally	Number
a	III	3
e	II	2
i	𝍸 II	7
o	II	2
u	II	2

Scrabble Tiles in the Game

Scrabble tiles	Tally	Number
A	𝍸 IIII	9
E	𝍸 𝍸 II	12
I	𝍸 IIII	9
O	𝍸 III	8
U	IIII	4

Skill 18.4 a) 3, b) shark, c) 4 years, d) 6 years, e) 6, f) $1, g) 30 cm
h) India, i) Netherlands, j) 45 metres

Skill 18.5 a) A, b) A, c) B, d) B, e) A, f) B, g) A, h) B, i) B, j) B, k) B
l) B, m) C, n) D, o) B, p) A, q) C, r) D

Skill 18.6 a) 8, b) poppy, c) 2 hours, d) 9, e) sheep, f) 15 dollars
g) 2012, h) Thailand, i) Adelaide, j) 6

Skill 18.7 a) B, b) A, c) A, d) B, e) A, f) A

Skill 18.8 a) pink, red, b) 1, 2, 3, 4, 5, 6, c) A, 1, B, 2
d) 0, 10, 40, 70, 100, e) 1, 3, 5, 7, 9, 11, f) 1, 2, 5, 10

Skill 18.9 a)

The Simpson's Hair!

Simpson	Number of spikes
Bart	9
Lisa	8
Maggie	8

b)

Web Searches

Student	Number of searches
Addison	5
Finn	4
Rosey	6

c)

Earth Features

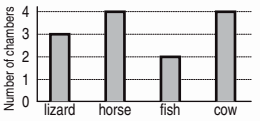
Earth Feature	Number
Oceans	5
Continents	7
Moons	1

d)

Fruit Average Length

Fruit	Length (inches)
Mandarin	2
Peach	3
Mango	5

e)



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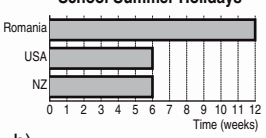

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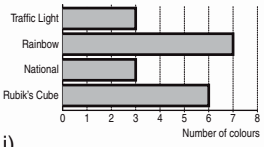

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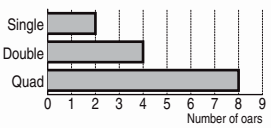

i)

Film Series

Film series	Number of films
Toy Story	4
Harry Potter	8
Shrek	5
Transformers	6

j)

London (av. sunlight hours/day)

Month	Average sunlight hours per day
January	1
April	5
July	6
October	3

Skill 18.10 a) 11, b) 6, c) 26, d) 7, e) 10, f) 7, g) 3, h) 21, i) 21, j) 28

Skill 18.11 a) Discovery, b) 50, c) 23, d) 3

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