MATHS MATE

YE LL OW
YELLOW

trial pack

Includes:

How to use Maths Mate

Record keeping sheet: Term 1

Worksheet masters: Term 1, Sheets 1 to 4

Test masters: 1A & 1B

Worksheet answers: Term 1, Sheets 1 to 4

Test answers: 1A & 1B

Problem Solving Hints & Solutions

Skill Builders:

5.1   Adding large numbers without carry over using columns.
13.1 Using the commutativity property for addition.

J. B. Wright & I. Tutos

HOW TO USE MATHS MATE

1. Students complete the **Maths Mate sheet.**
Parents sign the work.

2. Students correct their work in class. Students colour the boxes to record their correct answers.

3. The student **record keeping sheets** are completed. Students can transfer their results directly from the worksheet to the results sheet.

4. Students identify the appropriate Skill Builder as listed on the record keeping sheet.

5.

Students complete the **Skill Builder.**
Students are supported with instructions and worked examples.

8.
Skill 8 decimal ×,÷]

Blue **1 2 3** 44
Green **1** 22 33 44

multiplying a whole number by a decimal number (×).

Multiply from right to left, disregarding the decimal point.
- Count the number of places to the right of the decimal point in the question.
- Position the decimal point the same number of places from the right in the answer.

Q. $0.62 \times 4 =$ A. $0.62 \times 4 = 2.48$

$4 \times 2 = 8$ write 8
$4 \times 6 = 24$ carry 2, write 4
$4 \times 0 + \text{carry } 2 = 2$ write 2

2 decimal places in question so
move decimal point 2 places from right in the answer.

a) $0.9 \times 3 =$ [2.7]   b) $0.8 \times 2 =$ c) $0.7 \times 5 =$

d) $0.4 \times 6 =$ e) $0.3 \times 7 =$ f) $0.6 \times 9 =$

g) $5.1 \times 3 =$ h) $4.3 \times 6 =$ i) $2.7 \times 4 =$

j) $3.8 \times 2 =$ k) $1.9 \times 5 =$ l) $7.3 \times 8 =$

page 33   © Maths Mate Blue/Green Skill Builder 8

6.

The Skill Builders also have a **Glossary** and **Maths Facts**.

cylinder	• A *solid* with two *parallel* circular *bases* of the same size.	
data	• Collection of information that can include facts, numbers or measurements.	HOSPITAL EMERGENCIES (MAY)
day	• A *unit* of *time* equal to 24 *hours*.	A day starts and ends at midnight.
daylight saving time	• Use of fictitious time in the summer months that prolongs light in the evening hours.	During daylight saving clocks are one hour ahead of real time.
deca	• Prefix meaning ten.	Decathlon is an athletics contest with ten events.
decade	• A *unit* of *time* equal to 10 *years*.	2011 to 2020 make a decade.
decagon	• A shape with 10 *sides*.	
decimal number	• A number based on the ten *place value* system where a *decimal point* separates the *units* and *tenths*.	The decimal number 4.3 represents: 4 - ones 3 - tenths OR 4 and 3 tenths.
decimal place		7 is in the tenths place. 6 is in the hundredths place. 3 is in the thousandths place.
decimal point (.)	• A point that separates the *units* and *tenths* in a *decimal number*.	2.5 is a decimal number where the 2 and the 5 are separated by a decimal point.
decrease	• To make smaller.	8 must decrease by 5 to become 3.
deduct	• To take away.	If you deduct 1 from 3 there are 2 left. $3 - 1 = 2$
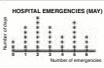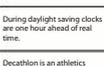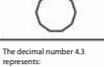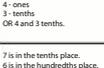
page 334   © Maths Mate Blue/Green Skill Builder Glossary

7.

Testing is available after every 4 Maths Mate sheets.

MATHS MATE

Test 1

Covering worksheets
1.1 - 1.4

Name:

1. [+ Whole Numbers to 10]
| 1 | 5 | 3 | 10 | 7 | 9 | 2 | 6 | 8 | 4 |
+1

2. [− Whole Numbers to 10]
| 12 | 10 | 8 | 14 | 7 | 5 | 13 | 11 | 6 | 9 |
−4

3. [× Whole Numbers to 12]
| 12 | 6 | 3 | 8 | 9 | 11 | 7 | 4 | 10 | 5 |
×5

4. [÷ Whole Numbers to 12]
| 100 | 50 | 40 | 90 | 20 | 70 | 30 | 80 | 110 | 60 |
÷10

5. [Large Number +,−]
$6\,590$
$-2\,340$

6. [Large Number ×,÷]
$\dfrac{96\,000}{100} =$

7. [Decimal +,−]
2.75
$+6.19$

8. [Decimal ×,÷]
0.8
$\times\ 4$

9. [Fraction +,−]
$\dfrac{3}{10} + \dfrac{4}{10} =$

10. [Fraction ×,÷]
$\dfrac{2}{7} \times 3 =$

11. [Percentages]
Write as a percentage: 37 out of 100.

12. [Decimals / Fractions / Percentages]
What percentage of the shape is shaded?

13. [Integers]
Which state has the lowest recorded temperature?
A) −13°C Tasmania
B) −11°C Victoria
C) −23°C NSW

14. [Rates / Ratios]
Simplify the ratio $12 : 16$

15. [Indices / Square Roots]
Write the product as a power:
$9 \times 9 \times 9 \times 9 =$

16. [Order of Operations]
$12 + 3 - 8 =$

17. [Exploring Numbers]
Which number is the largest?
A) 20543
B) 20345
C) 20534

18. [Multiples / Factors / Primes]
List the common multiples of 2 and 5 up to 35.

19. [Number Patterns]
Complete the pattern:
4, 9, 14, 19, 24,

20. [Expressions]
Simplify
$g + g$

21. [Substitution]
If $d = 7$, find the value of $d + 9$

22. [Equations]
$\boxed{} + 6 = 14$

page 1

23. [Coordinates]
Start at the origin. Move 6 units to the left along the *x*-axis and then up 3 units. Plot a point. What are the coordinates of the point?
(,)

24. [Units of Measurement / Time]
6 hours =   minutes

25. [Perimeter]
Use a ruler to find the perimeter of the equilateral triangle in centimetres.

26. [Area / Volume]
Find the area of the rectangle.
Area $= 1\ \text{cm}^2$
cm²

27. [Shapes]
Use a protractor to measure this angle.

28. [Location / Transformation]
Which of these Italian cities is west of Cremona?

29. [Statistics]
How many films have won ten or more Oscars?
≥6 Oscar wins by film
Number of Oscars
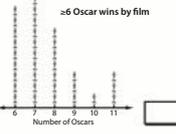
30. [Probability]
There are 6 toffee, 14 caramel and 8 nut centred chocolates in a box. How many chocolates do you have to pick to make sure you have at least one nut centred chocolate?

31. [Problem Solving 1]
The digits 2, 4, 7, 8 and 9 are arranged to form even, five-digit numbers. What is the tens digit in the largest of these numbers?

32. [Problem Solving 2]
Some cubes have been removed from an array of $4 \times 3 \times 3$. How many cubes remain?

33. [Problem Solving 3]
Each of the digits 1 to 9 appears once in the sum below. Fill in the missing digits.

$\begin{array}{r} \boxed{\ }\ 4\ \ 2 \\ +\ \boxed{\ }\ \boxed{\ } \\ \hline \boxed{\ }\ \boxed{\ }\ \boxed{\ } \end{array}$

page 2   Blue Test 1A © Copyright. Not to be reproduced without permission. J. B. Wright 2020

8.

If a student is having difficulty with their problem solving strategies, then the **Problem Solving Hints & Solutions** can be used by teachers to develop students' problem solving skills.

1.3

31. **Hint:** *Consider the properties of even numbers. Make an organised list ordering the digits from largest to smallest.*
Solution: To be even, the numbers must end in 4 or 6. The largest possibilities for each ending are 76 534 and 75 436.
The largest number is 76 534 and the hundreds digit is **5**.

MATHS MATE

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Worksheet Results

Term 1

Name: ....

Class: ....

Teacher: ....

	Sheet 1	Sheet 2	Sheet 3	Sheet 4	Skill Builder links	Sheet 5	Sheet 6	Sheet 7	Sheet 8	Skill Builder links
NUMBER & ALGEBRA										
1. [+ Whole Numbers to 10]	1	1	1	1	1.1,2,3,4	1	1	1	1	1.1,2,3,4
2. [− Whole Numbers to 10]	2	2	2	2	2.1,2,3,4,5	2	2	2	2	2.1,2,3,4,5
3. [× Whole Numbers to 10]	3	3	3	3	3.3,4,5	3	3	3	3	3.1,2,3,4
4. [÷ Whole Numbers to 10]	4	4	4	4	4.1,2	4	4	4	4	4.1,2
5. [Large Number +]	5	5	5	5	5.1	5	5	5	5	5.1
6. [Large Number −]	6	6	6	6	6.1	6	6	6	6	6.1
7. [Powers of 10 ×,÷]	7	7	7	7	7.1,2	7	7	7	7	7.3,4
8. [Large Number ×,÷]	8	8	8	8	8.1	8	8	8	8	8.4
9. [Decimals]	9	9	9	9	9.1	9	9	9	9	9.2
10. [Fractions]	10	10	10	10	10.1	10	10	10	10	10.2
11. [Decimals / Fractions]	11	11	11	11	11.1	11	11	11	11	11.2
12. [Place Value]	12	12	12	12	12.1	12	12	12	12	12.2
13. [Operations]	13	13	13	13	13.1	13	13	13	13	13.2
14. [Exploring Numbers]	14	14	14	14	14.1	14	14	14	14	14.2,3
15. [Number Patterns / Equations]	15	15	15	15	15.1	15	15	15	15	15.2
MEASUREMENT & SPACE										
16. [Units of Measurement]	16	16	16	16	16.1	16	16	16	16	16.2
17. [Time]	17	17	17	17	17.1	17	17	17	17	17.2
18. [Measuring]	18	18	18	18	18.1	18	18	18	18	18.2
19. [Shapes]	19	19	19	19	19.1	19	19	19	19	19.2
20. [Location / Transformation]	20	20	20	20	20.1	20	20	20	20	20.2
S & P 21. [Statistics / Probability]	21	21	21	21	21.1,2	21	21	21	21	21.3
PROBLEM SOLVING 22. [Problem Solving 1]	22	22	22	22	Hints & Solutions	22	22	22	22	Hints & Solutions
23. [Problem Solving 2]	23	23	23	23	Hints & Solutions	23	23	23	23	Hints & Solutions
24. [Problem Solving 3]	24	24	24	24	Hints & Solutions	24	24	24	24	Hints & Solutions
Total Correct	○	○	○	○		○	○	○	○	

MATHS MATE
Term 1 - Sheet 1

YC YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

1. [+ Whole Numbers to 10]

9	7	3	4	2	6	8	5	1	10

+ 2

2. [− Whole Numbers to 10]

15	9	14	12	16	11	13	8	17	10

− 7

3. [× Whole Numbers to 10]

3	6	9	1	7	2	10	5	4	8

× 4

4. [÷ Whole Numbers to 10]

20	5	35	45	10	15	50	25	30	40

÷ 5

QUOTE

"A person is like a fraction whose numerator is what they are and whose denominator is what they think of themselves. The larger the denominator the smaller the fraction."
Leo Tolstoy
Who are you?

a) ⌣ b) ⌣ c) ☺

CHALLENGE:
You'll find this little Mate ☺ on every sheet but one! The question is which one?

5. [Large Number +]

$$\begin{array}{r} 2\,2 \\ +\,4\,5 \\ \hline \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 3\,8 \\ -\,2\,3 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 3\,5 \\ \times\,1\,0 \\ \hline \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 3\,2 \\ \times\quad 3 \\ \hline \end{array}$$

9. [Decimals]

hundredths =

0.

10. [Fractions]

Shade in $\frac{2}{5}$ (two fifths) of the pentagon.

11. [Decimals / Fractions]

three = ☐ tenths
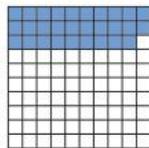
12. [Place Value]

Name the place of the underlined digit in the number 19<u>3</u>. [Hint: Is it units, tens or hundreds?]

13. [Operations]

$9 + 5 = 5 +$ ☐

14. [Exploring Numbers]

Write in numerals:
eight hundred and five

15. [Number Patterns / Equations]

2, 7, 12, 17, 22, __ , __

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

**16.** [Units of Measurement]

Choose the appropriate unit: centimetres, metres or kilometres.

"The world's tallest Volcano is Mauna Kea with a total height (measured from the sea floor) of 10211..."

17. [Time]

Write the time in words.
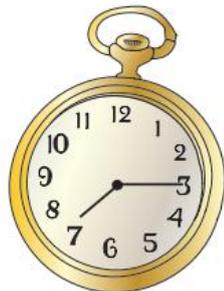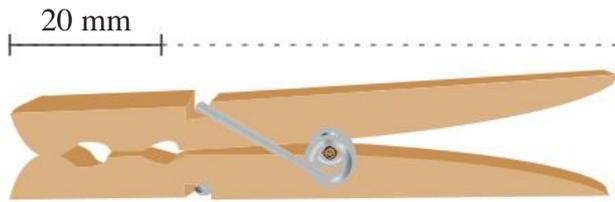
18. [Measuring]

Estimate the length of the clothes peg.

20 mm

mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?
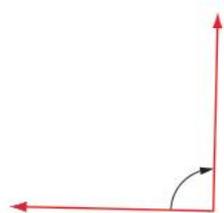
20. [Location / Transformation]

Which movement has transformed this shape?
A) flip (reflection)
B) slide (translation)
C) turn (rotation)
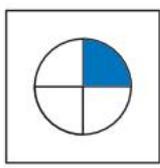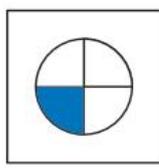
Position 1   Position 2

21. [Statistics / Probability]

What is the main metal in 9-carat gold?

Typical Composition of 9-Carat Gold
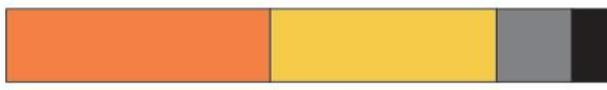
| ■ Copper | ■ Gold | ■ Silver | ■ Zinc |

22. [Problem Solving 1] *

Mum works on the fourth floor from the top of the building. It is also fourth from the bottom. How many floors high is the building?

23. [Problem Solving 2]

Fill in the missing digits in the sum.

$$
\begin{array}{r}
1\ 2\ 0 \\
+\ \boxed{}\ 7\ \boxed{} \\
\hline
6\ \boxed{}\ 5 \\
\end{array}
$$

24. [Problem Solving 3] *

Fill in the missing number.

$13 + \boxed{} + 35 = 80$

MATHS MATE
Term 1 - Sheet 2

YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

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1. [+ Whole Numbers to 10]

8	9	6	10	4	1	3	5	7	2

+ 3

2. [− Whole Numbers to 10]

7	10	9	14	8	12	13	11	6	15

− 5

3. [× Whole Numbers to 10]

10	6	4	5	2	1	7	3	8	9

× 2

4. [÷ Whole Numbers to 10]

20	8	4	40	12	28	24	16	36	32

÷ 4

YOU'VE GOT TO HAND IT TO THEM
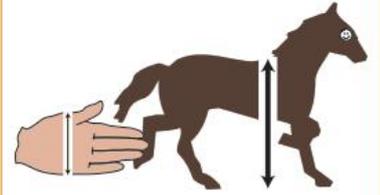
Traditionally, the height of a horse from the ground to the shoulder blades is given in **HANDS**.

A hand was originally the width of an adult hand. Now it is equal to 4 inches or 10.16 centimetres.

PHAR LAP was 17 hands high.

---

5. [Large Number +]

$$\begin{array}{r} 1\,4\,2 \\ +\,3\,3\,2 \\ \hline \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 9\,6 \\ -\,3\,2 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 2\,7\,4 \\ \times\quad 1\,0 \\ \hline \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 2\,1 \\ \times\quad 4 \\ \hline \end{array}$$

9. [Decimals]

$\square$ tenths = 0.

10. [Fractions]

Shade in $\frac{3}{10}$ of the group of flowers.

11. [Decimals / Fractions]

one = $\square$ hundredths
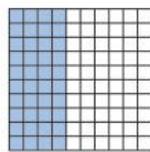
12. [Place Value]

Name the place of the underlined digit in the number 45__2__. [Hint: Is it units, tens or hundreds?]

13. [Operations]

$6 - 4 = 4 - 6$
True or false?

14. [Exploring Numbers]

Write in numerals:
five hundred and seventeen

15. [Number Patterns / Equations]

5, 8, 11, 14, 17, __ , __

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

16. [Units of Measurement]

Choose the appropriate unit: millilitres, litres or megalitres.

"The amount of blood in the average adult person is approximately 5..."

17. [Time]

Write the time in words.
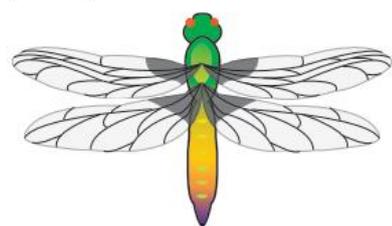
18. [Measuring]

Estimate the wingspan of the dragonfly.

10 mm

_____ mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?

**20.** [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

21. [Statistics / Probability]

For the New Zealand population which of the age groups shown is the second largest?

Age structure of New Zealand

☐ 0 - 14 years

☐ 15 - 64 years

☐ 65⁺ years
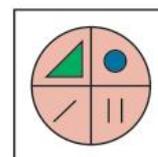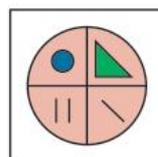
22. [Problem Solving 1] *

Jacinta's name is fifteenth from the top on the class roll. It is also fifteenth from the bottom. How many students are there in the class?

23. [Problem Solving 2]

Fill in the missing digits in the sum.

$$\begin{array}{r} \boxed{}\ 6\ \boxed{} \\ +\ 4\ \boxed{}\ 2 \\ \hline 7\ 9\ 8 \end{array}$$

24. [Problem Solving 3] *

Fill in the missing number.

$45 - \boxed{} + 20 = 28$

MATHS MATE
Term 1 - Sheet 3

YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

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1. [+ Whole Numbers to 10]

5	3	2	4	10	1	8	9	6	7

+ 7

2. [− Whole Numbers to 10]

7	4	5	8	11	13	10	12	6	9

− 3

3. [× Whole Numbers to 10]

1	4	8	5	2	10	3	7	9	6

× 6

4. [÷ Whole Numbers to 10]

6	10	14	16	8	18	20	4	12	2

÷ 2

FATHOM THIS..........

Water depth is measured in fathoms.

One **FATHOM** is equivalent to six feet.

A fathometer can measure very deep oceans by recording the time taken for the echo of a sound to reach the sea bed and then return to the surface of the water.

How deep is the deepest ocean?

Answer: The Marianas Trench in the Pacific Ocean is nearly 6000 fathoms deep. This is nearly 36 000 feet or 11 000 metres.

---

5. [Large Number +]

```
   5 1 4 2
 + 1 0 5 4
 ─────────
```

6. [Large Number −]

```
     8 5 6
   − 2 1 3
 ─────────
```

7. [Powers of 10 ×,÷]

```
     6 0
   × 1 0
 ───────
```

8. [Large Number ×,÷]

```
     3 4 3
   ×     2
 ─────────
```

9. [Decimals]

☐ tenths +

☐ hundredths =

0.☐

10. [Fractions]

What fraction of the rectangle is shaded?

—

11. [Decimals / Fractions]

1 tenth = ☐ hundredths

12. [Place Value]

In the number 13 579 which of the digits 1, 3, 5, 7 or 9 lies in the thousands place?

13. [Operations]

☐ + 4 = 4 + 7

14. [Exploring Numbers]

Write in numerals:

four thousand, three hundred and twenty-one

15. [Number Patterns / Equations]

3, 12, 21, 30, __ , __

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

16. [Units of Measurement]

Choose the appropriate unit: millimetres, centimetres or metres. "Sardines range in length from 10 to 18..."

17. [Time]

Write the time in words.
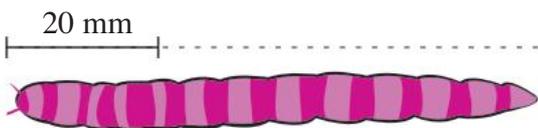
18. [Measuring]

Estimate the length of the worm.

20 mm

mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?

20. [Location / Transformation]

Which movement has transformed this shape?

A)   flip (reflection)
B)   slide (translation)
C)   turn (rotation)

Position 1   Position 2

21. [Statistics / Probability]

Which type of advertisement is the second most common during children's TV programs?

Advertisements During Children's TV Programs

| Toys | Health Foods | Breakfast Foods | Snacks & Drinks | Fast Foods | Clothing |
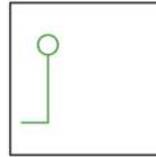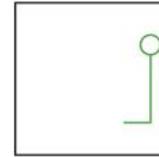
22. [Problem Solving 1] *

On a shelf, the Maths book is the eleventh from the left or tenth from the right. How many books are there on the shelf?

23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

$$
\begin{array}{ccc}
 & 9 & 6 \\
- \quad 5 & \square & 4 \\
\hline
1 \quad 7 & & \square \\
\end{array}
$$

24. [Problem Solving 3] *

Place a $+$, $-$ or $\times$ sign in each box to make the equation correct.

0 ☐ 8 ☐ 8 = 8

MATHS MATE
Term 1 - Sheet 4

YO YELLOW

Name: ....

Due Date: ..../.........../...........

Parent's Signature: ....

1. [+ Whole Numbers to 10]

4	8	5	7	1	6	2	3	10	9

+ 4

2. [− Whole Numbers to 10]

18	13	12	16	11	14	17	9	15	10

− 8

3. [× Whole Numbers to 10]

9	1	4	7	2	3	5	10	8	6

× 3

4. [÷ Whole Numbers to 10]

7	4	5	1	9	2	10	6	8	3

÷ 1

HOW MANY BITS IN A BYTE?

Computers use bits of information.

A **BIT** of information is given by a single microscopic on/off switch used to represent 1 or 0 in binary notation. (Each Bit is either on or off.)

A **BYTE** has 8 BITS. A BYTE might represent a single letter or digit or punctuation mark.

5. [Large Number +]

$$\begin{array}{r} 1\,2\,2 \\ 3\,1\,1 \\ +\,5\,0\,4 \\ \hline \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 9\,4\,7 \\ -\,5\,3\,3 \\ \hline \end{array}$$
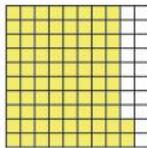
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 1\,3\,8\,2 \\ \times \qquad 1\,0 \\ \hline \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 1\,2\,2 \\ \times \qquad 4 \\ \hline \end{array}$$

9. [Decimals]

☐ tenths +

☐ hundredths =

0.☐

10. [Fractions]

What fraction of the stars is shaded?

$\dfrac{\square}{\square}$

11. [Decimals / Fractions]

4 tenths = ☐ hundredths

12. [Place Value]

In the number 24 689 which of the digits 2, 4, 6, 8 or 9 lies in the hundreds place? ☐

13. [Operations]

$6 + 3 = \square + 6$

14. [Exploring Numbers]

Write in numerals:
nine thousand and twenty-six ☐

15. [Number Patterns / Equations]

4, 11, 18, 25, 32, __ , __

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

16. [Units of Measurement]

Choose the appropriate unit: grams, kilograms or tonnes.

"The Chinese Giant Salamander is the largest living amphibian, weighing up to 64..."

17. [Time]

Write the time in words.

18. [Measuring]

Estimate the length of the hammer head.

20 mm

mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?

20. [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

21. [Statistics / Probability]

In what region were approximately 10% of Australians born?

WHERE AUSTRALIANS WERE BORN

0 10 20 30 40 50 60 70 80 90 100
percentage of population %

Australia   Europe   Asia   NZ   Other
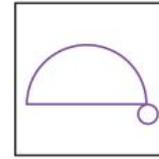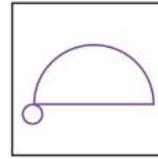
22. [Problem Solving 1] *

Linda was in the middle of the queue, sixteenth from the start and sixteenth from the end. How many people were in the queue?

23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

$$
\begin{array}{ccc}
3 & \Box & 8 \\
- \Box & 4 & \Box \\
\hline
2 & 2 & 3
\end{array}
$$

24. [Problem Solving 3] *

Place a +, − or × sign in each box to make the equation correct.

6 ☐ 8 ☐ 2 = 46

MATHS MATE

YLQW YELLOW

Test 1
Covering worksheets 1.1 - 1.4

Name: ....

1. [+ Whole Numbers to 10]

4	5	2	3	7	6	8	1	9	10

+ 4

2. [− Whole Numbers to 10]

11	6	8	5	12	13	4	9	10	7

− 3

3. [× Whole Numbers to 10]

4	1	3	9	10	5	8	2	6	7

× 2

4. [÷ Whole Numbers to 10]

10	45	50	40	30	20	15	35	5	25

÷ 5

START MAZE

FINISH

5. [Large Number +]

$$\begin{array}{r} 4\,3\,1 \\ +\,2\,0\,6 \\ \hline \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 8\,4\,9 \\ -\,3\,3\,2 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 1\,9\,3 \\ \times\,\quad 1\,0 \\ \hline \end{array}$$
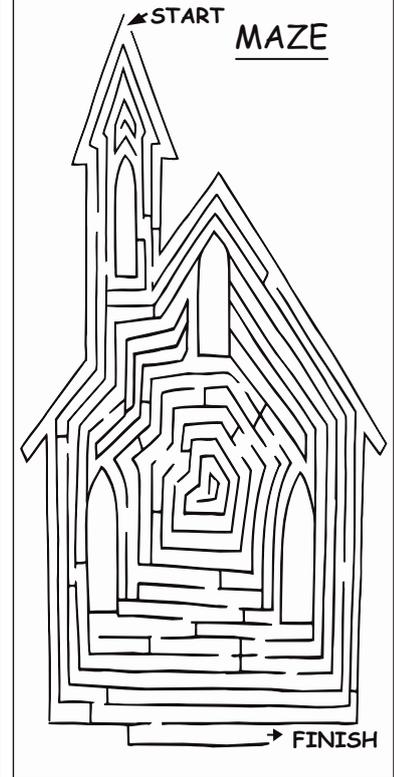
8. [Large Number ×,÷]

$$\begin{array}{r} 2\,3\,2 \\ \times\,\quad 3 \\ \hline \end{array}$$

9. [Decimals]

$\square$ tenths +

$\square$ hundredths =

0.

10. [Fractions]
What fraction of the group of cubes is shaded?

11. [Decimals / Fractions]

5 tenths = $\square$ hundredths
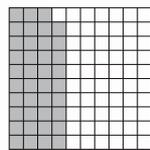
12. [Place Value]
In the number 14 563 which of the digits 1, 4, 5, 6 or 3 lies in the thousands place?

13. [Operations]

$1 + 8 = \square + 1$
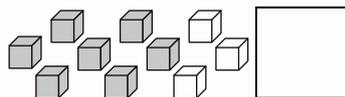
14. [Exploring Numbers]
Write in numerals:
two thousand, five hundred and eight

15. [Number Patterns / Equations]

4, 9, 14, 19, 24, __ , __

16. [Units of Measurement]

Choose the appropriate unit: centimetres, metres or kilometres.

"The distance around the base of Uluru is 9.4..."

17. [Time]

Write the time in words.
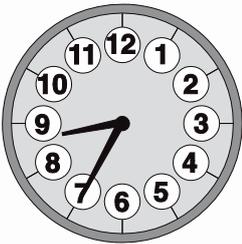
18. [Measuring]

Estimate the length of the arrow.

10 mm

mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?

20. [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)
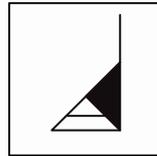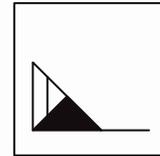
Position 1   Position 2

21. [Statistics / Probability]

Which coloured medal did New Zealand win most at the 2016 Rio Olympics?

NEW ZEALAND OLYMPIC MEDALS
(Rio 2016)

☐ gold   ☐ silver   ☐ bronze

22. [Problem Solving 1]

In a car park, our car was fifth from one end of the row and twelfth from the other. How many cars were parked in our row?

23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

$$
\begin{array}{ccc}
 & \boxed{} & 6 & \boxed{} \\
- & 3 & \boxed{} & 5 \\
\hline
 & 5 & 3 & 4 \\
\end{array}
$$

24. [Problem Solving 3]

Place a +, − or × sign in each box to make the equation correct.

7 ☐ 7 ☐ 9 = 40

MATHS MATE

YELLOW

Test 1
Covering worksheets 1.1 - 1.4

Name: ....

1. [+ Whole Numbers to 10]

7	5	6	4	1	8	2	9	10	3

+ 3										

2. [− Whole Numbers to 10]

13	11	9	14	15	6	7	12	10	8

− 5										

3. [× Whole Numbers to 10]

7	5	6	4	1	8	2	9	10	3

× 6										

4. [÷ Whole Numbers to 10]
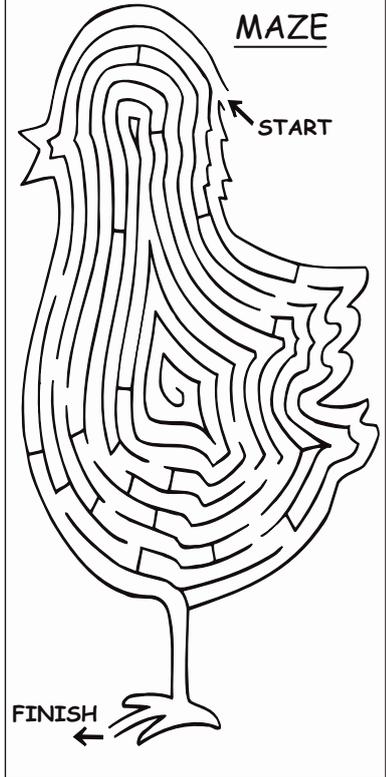
2	14	12	6	8	16	10	20	18	4

÷ 2										

MAZE

START

FINISH

5. [Large Number +]

$$542 + 203$$

6. [Large Number −]

$$976 - 731$$

7. [Powers of 10 ×,÷]

$$368 \times 10$$

8. [Large Number ×,÷]

$$123 \times 3$$

9. [Decimals]

☐ tenths +

☐ hundredths =

0.☐

10. [Fractions]

What fraction of the hexagon is shaded?

11. [Decimals / Fractions]

one = ☐ tenths
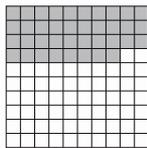
12. [Place Value]

In the number 47 258 which of the digits 4, 7, 2, 5 or 8 lies in the thousands place?

13. [Operations]

☐ + 2 = 2 + 4

14. [Exploring Numbers]

Write in numerals:
seven thousand and nine

15. [Number Patterns / Equations]

4, 7, 10, 13, 16, ☐ , ☐

16. [Units of Measurement]

Choose the appropriate unit: centimetres, metres or kilometres.

"One of New Zealands tallest waterfalls is Sutherland Falls with a height of 580..."

17. [Time]

Write the time in words.

18. [Measuring]

Estimate the length of the feather.

20 mm

mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?

20. [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)
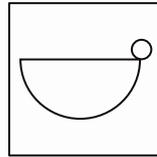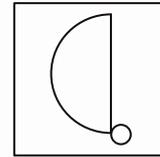
Position 1   Position 2

21. [Statistics / Probability]

What is the largest climatic zone in Australia?

Australian Climatic Zones (for temperature)
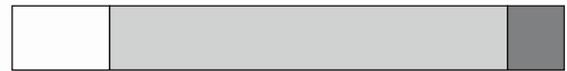
☐ Temperate   ☐ Hot / arid   ■ Warm / humid

22. [Problem Solving 1]

On our side of the road, our house is fourteenth from the north end of the block or eighth coming from the south. How many houses are there in the block on our side of the road?

23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

$$
\begin{array}{r}
8\ \boxed{}\ 2 \\
-\ \boxed{}\ 4\ \boxed{} \\
\hline
7\ 1\ 0
\end{array}
$$

24. [Problem Solving 3]

Place a +, – or × sign in each box to make the equation correct.

$9\ \boxed{}\ 5\ \boxed{}\ 5 = 50$

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MATHS MATE
Term 1 - Sheet 1

YLe YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

1. [+ Whole Numbers to 10]

9	7	3	4	2	6	8	5	1	10
+2	11	9	5	6	4	8	10	7	3	12

2. [− Whole Numbers to 10]

15	9	14	12	16	11	13	8	17	10
−7	8	2	7	5	9	4	6	1	10	3

3. [× Whole Numbers to 10]

3	6	9	1	7	2	10	5	4	8
×4	12	24	36	4	28	8	40	20	16	32

4. [÷ Whole Numbers to 10]

20	5	35	45	10	15	50	25	30	40
÷5	4	1	7	9	2	3	10	5	6	8

QUOTE

"A person is like a fraction whose numerator is what they are and whose denominator is what they think of themselves. The larger the denominator the smaller the fraction."
Leo Tolstoy
Who are you?

a) $\frac{\smile}{\smile}$ b) $\frac{\smile}{\smile\smile}$ c) $\frac{\smile\smile}{\smile}$

CHALLENGE:
You'll find this little Mate ☺ on every sheet but one! The question is which one?

Answer: Sheet 3.5

5. [Large Number +]

$$\begin{array}{r} 2\,2 \\ +\,4\,5 \\ \hline 6\,7 \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 3\,8 \\ -\,2\,3 \\ \hline 1\,5 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 3\,5 \\ \times\,1\,0 \\ \hline 3\,5\,0 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 3\,2 \\ \times\quad 3 \\ \hline 9\,6 \end{array}$$

9. [Decimals]
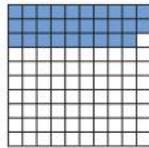
29 hundredths =

0.29

10. [Fractions]

Shade in $\frac{2}{5}$ (two fifths) of the pentagon.

[any 2 triangles]

11. [Decimals / Fractions]

three = 30 tenths

12. [Place Value]

Name the place of the underlined digit in the number 19<u>3</u>. [Hint: Is it units, tens or hundreds?]

tens

13. [Operations]

$9 + 5 = 5 + $ 9
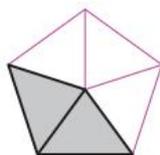
14. [Exploring Numbers]

Write in numerals:
eight hundred and five

805

15. [Number Patterns / Equations]

2, 7, 12, 17, 22, 27 , 32

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

16. [Units of Measurement]

Choose the appropriate unit: centimetres, metres or kilometres.

"The world's tallest Volcano is Mauna Kea with a total height (measured from the sea floor) of 10211..."

metres

17. [Time]

Write the time in words.

OR seven fifteen

a quarter past seven

18. [Measuring]

Estimate the length of the clothes peg.
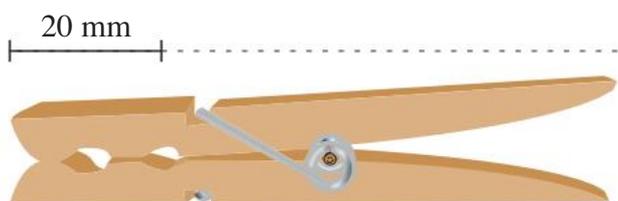
20 mm

Accept 75 to 85 → 80 mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?

equal to

**20.** [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

C

21. [Statistics / Probability]

What is the main metal in 9-carat gold?

Typical Composition of 9-Carat Gold

☐ Copper   ☐ Gold   ☐ Silver   ☐ Zinc
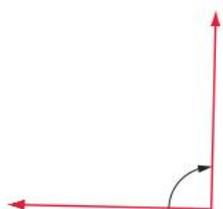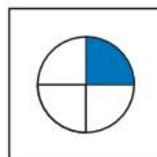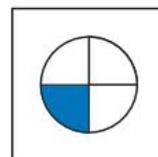
copper

22. [Problem Solving 1] ✳

Mum works on the fourth floor from the top of the building. It is also fourth from the bottom. How many floors high is the building?

7

23. [Problem Solving 2]

Fill in the missing digits in the sum.

$$
\begin{array}{r}
1\ 2\ 0 \\
+\ 5\ 7\ 5 \\
\hline
6\ 9\ 5
\end{array}
$$

24. [Problem Solving 3] ✳

Fill in the missing number.

$13 + \boxed{32} + 35 = 80$

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MATHS MATE
Term 1 - Sheet 2

YLO YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

---

1. [+ Whole Numbers to 10]

8	9	6	10	4	1	3	5	7	2
+3									
11	12	9	13	7	4	6	8	10	5

2. [− Whole Numbers to 10]

7	10	9	14	8	12	13	11	6	15
−5									
2	5	4	9	3	7	8	6	1	10

3. [× Whole Numbers to 10]

10	6	4	5	2	1	7	3	8	9
×2									
20	12	8	10	4	2	14	6	16	18

4. [÷ Whole Numbers to 10]

20	8	4	40	12	28	24	16	36	32
÷4									
5	2	1	10	3	7	6	4	9	8

YOU'VE GOT TO HAND IT TO THEM
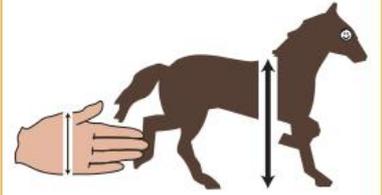
Traditionally, the height of a horse from the ground to the shoulder blades is given in **HANDS**.

A hand was originally the width of an adult hand. Now it is equal to 4 inches or 10.16 centimetres.

PHAR LAP was 17 hands high.

---

5. [Large Number +]

$$\begin{array}{r} 1\ 4\ 2 \\ +\ 3\ 3\ 2 \\ \hline 4\ 7\ 4 \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 9\ 6 \\ -\ 3\ 2 \\ \hline 6\ 4 \end{array}$$
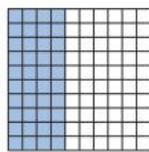
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 2\ 7\ 4 \\ \times\ \ \ 1\ 0 \\ \hline 2\ 7\ 4\ 0 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 2\ 1 \\ \times\ \ \ 4 \\ \hline 8\ 4 \end{array}$$

9. [Decimals]

4   tenths = 0.4

10. [Fractions]

Shade in $\frac{3}{10}$ of the group of flowers.

[any 3 flowers]

11. [Decimals / Fractions]

one = 100 hundredths

12. [Place Value]

Name the place of the underlined digit in the number 452. [Hint: Is it units, tens or hundreds?]

units

13. [Operations]

$6 - 4 = 4 - 6$
True or false?

false
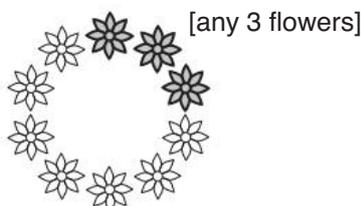
14. [Exploring Numbers]

Write in numerals:
five hundred and seventeen

517

15. [Number Patterns / Equations]

5, 8, 11, 14, 17, 20 , 23

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

16. [Units of Measurement]

Choose the appropriate unit: millilitres, litres or megalitres.

"The amount of blood in the average adult person is approximately 5..."

litres

17. [Time]

Write the time in words.

OR six ten

ten past six

18. [Measuring]

Estimate the wingspan of the dragonfly.

10 mm
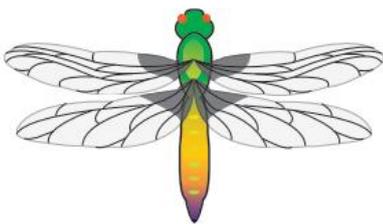
Accept 48 to 52 → 50 mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?
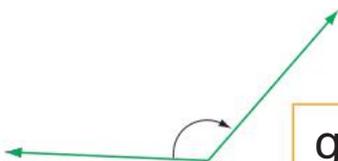
greater than

20. [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

A

21. [Statistics / Probability]

For the New Zealand population which of the age groups shown is the second largest?

Age structure of New Zealand

0 - 14 years

15 - 64 years

65+ years
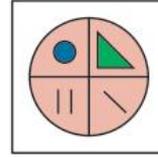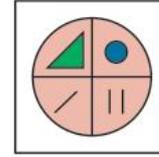
0-14 years

22. [Problem Solving 1] *

Jacinta's name is fifteenth from the top on the class roll. It is also fifteenth from the bottom. How many students are there in the class?

29

23. [Problem Solving 2]

Fill in the missing digits in the sum.

$$\begin{array}{r} 3\ 6\ 6 \\ +\ 4\ 3\ 2 \\ \hline 7\ 9\ 8 \end{array}$$

24. [Problem Solving 3] *

Fill in the missing number.

$45 - \boxed{37} + 20 = 28$

MATHS MATE

Term 1 - Sheet 3

YQ YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

1. [+ Whole Numbers to 10]

5	3	2	4	10	1	8	9	6	7
+7									
12	10	9	11	17	8	15	16	13	14

2. [− Whole Numbers to 10]

7	4	5	8	11	13	10	12	6	9
−3									
4	1	2	5	8	10	7	9	3	6

3. [× Whole Numbers to 10]

1	4	8	5	2	10	3	7	9	6
×6									
6	24	48	30	12	60	18	42	54	36

4. [÷ Whole Numbers to 10]

6	10	14	16	8	18	20	4	12	2
÷2									
3	5	7	8	4	9	10	2	6	1

FATHOM THIS..........

Water depth is measured in fathoms.

One **FATHOM** is equivalent to six feet.

A fathometer can measure very deep oceans by recording the time taken for the echo of a sound to reach the sea bed and then return to the surface of the water.

How deep is the deepest ocean?

Answer: The Marianas Trench in the Pacific Ocean is nearly 6000 fathoms deep. This is nearly 36 000 feet or 11 000 metres.

---

5. [Large Number +]

$$\begin{array}{r} 5142 \\ +1054 \\ \hline 6196 \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 856 \\ -213 \\ \hline 643 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 60 \\ \times 10 \\ \hline 600 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 343 \\ \times \quad 2 \\ \hline 686 \end{array}$$

9. [Decimals]
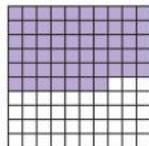
5 tenths +

7 hundredths =

0.57

10. [Fractions]

What fraction of the rectangle is shaded?

$\dfrac{3}{8}$

11. [Decimals / Fractions]

1 tenth = **10** hundredths

12. [Place Value]

In the number 13 579 which of the digits 1, 3, 5, 7 or 9 lies in the thousands place?

3

13. [Operations]

7 + 4 = 4 + 7
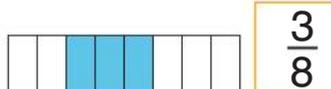
14. [Exploring Numbers]

Write in numerals:

four thousand, three hundred and twenty-one

4321

15. [Number Patterns / Equations]

3, 12, 21, 30, **39** , **48**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

16. [Units of Measurement]

Choose the appropriate unit: millimetres, centimetres or metres.
"Sardines range in length from 10 to 18..."

centimetres

17. [Time]

Write the time in words.

22:55

OR five to eleven pm

ten fifty-five pm

18. [Measuring]

Estimate the length of the worm.

20 mm
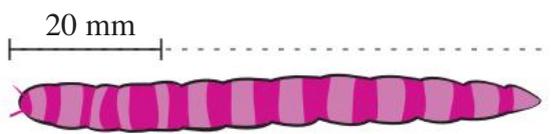
Accept 65 to 75 → 70 mm

19. [Shapes]

Is the angle "less than", "equal to" or "greater than" a right angle?
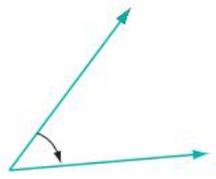
less than

20. [Location / Transformation]

Which movement has transformed this shape?

A) flip (reflection)
B) slide (translation)
C) turn (rotation)
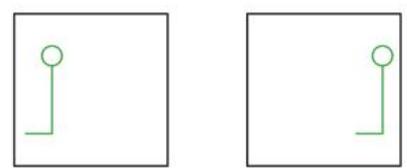
Position 1   Position 2

B

21. [Statistics / Probability]

Which type of advertisement is the second most common during children's TV programs?

Advertisements During Children's TV Programs

| Toys | Health Foods | Breakfast Foods | Snacks & Drinks | Fast Foods | Clothing |
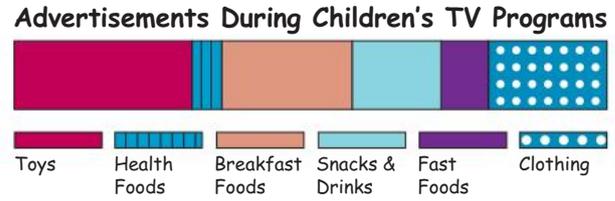
breakfast foods

22. [Problem Solving 1] *

On a shelf, the Maths book is the eleventh from the left or tenth from the right. How many books are there on the shelf?

20

23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

$$
\begin{array}{ccc}
  & 6 & 9 & 6 \\
- & 5 & 2 & 4 \\
\hline
  & 1 & 7 & 2 \\
\end{array}
$$

24. [Problem Solving 3] *

Place a +, − or × sign in each box to make the equation correct.

$0 \times 8 + 8 = 8$

MATHS MATE
Term 1 - Sheet 4

YC YELLOW

Name: ....

Due Date: .... / .... / ....

Parent's Signature: ....

1. [+ Whole Numbers to 10]

4	8	5	7	1	6	2	3	10	9

+ 4

8	12	9	11	5	10	6	7	14	13

2. [− Whole Numbers to 10]

18	13	12	16	11	14	17	9	15	10

− 8

10	5	4	8	3	6	9	1	7	2

3. [× Whole Numbers to 10]

9	1	4	7	2	3	5	10	8	6

× 3

27	3	12	21	6	9	15	30	24	18

4. [÷ Whole Numbers to 10]

7	4	5	1	9	2	10	6	8	3

÷ 1

7	4	5	1	9	2	10	6	8	3

HOW MANY BITS IN A BYTE?

Computers use bits of information.

A **BIT** of information is given by a single microscopic on/off switch used to represent 1 or 0 in binary notation. (Each Bit is either on or off.)

A **BYTE** has 8 BITS. A BYTE might represent a single letter or digit or punctuation mark.

5. [Large Number +]

```
  1 2 2
  3 1 1
+ 5 0 4
-------
  9 3 7
```

6. [Large Number −]

```
  9 4 7
− 5 3 3
-------
  4 1 4
```

7. [Powers of 10 ×,÷]

```
  1 3 8 2
×     1 0
---------
1 3 8 2 0
```

8. [Large Number ×,÷]

```
  1 2 2
×     4
-------
  4 8 8
```

9. [Decimals]

8 tenths +

2 hundredths = 0.82

10. [Fractions]

What fraction of the stars is shaded?

$\frac{4}{5}$

11. [Decimals / Fractions]

4 tenths = 40 hundredths

12. [Place Value]

In the number 24 689 which of the digits 2, 4, 6, 8 or 9 lies in the hundreds place?

6

13. [Operations]

6 + 3 = 3 + 6

14. [Exploring Numbers]

Write in numerals: nine thousand and twenty-six

9026

15. [Number Patterns / Equations]

4, 11, 18, 25, 32, 39 , 46

16. [Units of Measurement]
Choose the appropriate unit:
grams, kilograms or tonnes.
"The Chinese Giant Salamander is the largest living amphibian, weighing up to 64..."

kilograms

17. [Time]
Write the time in words.

OR nine forty

twenty to ten

18. [Measuring]
Estimate the length of the hammer head.

20 mm
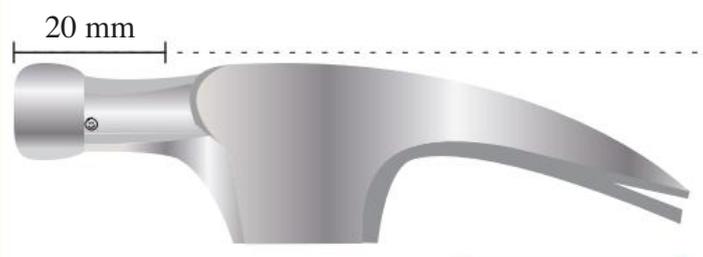
Accept 85 to 95 ⟶ **90 mm**

19. [Shapes]
Is the angle "less than", "equal to" or "greater than" a right angle?
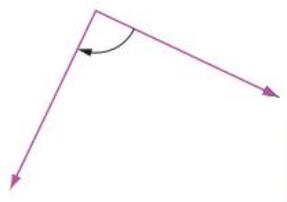
equal to

**20.** [Location / Transformation]
Which movement has transformed this shape?
A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

A

21. [Statistics / Probability]
In what region were approximately 10% of Australians born?

WHERE AUSTRALIANS WERE BORN

0 10 20 30 40 50 60 70 80 90 100
percentage of population %

Australia   Europe   Asia   NZ   Other
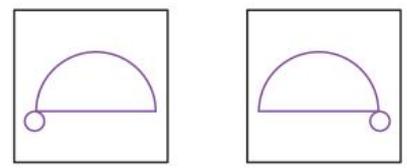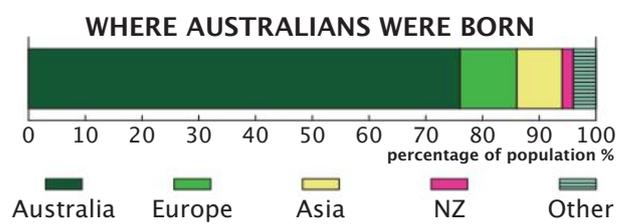
Europe

22. [Problem Solving 1] ✳
Linda was in the middle of the queue, sixteenth from the start and sixteenth from the end. How many people were in the queue?

31

23. [Problem Solving 2]
Fill in the missing digits in the subtraction.

$$
\begin{array}{r}
3\ \boxed{6}\ 8 \\
-\ \boxed{1}\ 4\ \boxed{5} \\
\hline
2\ 2\ 3
\end{array}
$$

24. [Problem Solving 3] ✳
Place a +, − or × sign in each box to make the equation correct.

6 $\boxed{\times}$ 8 $\boxed{-}$ 2 = 46

MATHS MATE

YQ YELLOW

Test 1
Covering worksheets 1.1 - 1.4

Name: ....

1. [+ Whole Numbers to 10]

4	5	2	3	7	6	8	1	9	10

+ 4

8	9	6	7	11	10	12	5	13	14

2. [− Whole Numbers to 10]

11	6	8	5	12	13	4	9	10	7

− 3

8	3	5	2	9	10	1	6	7	4

3. [× Whole Numbers to 10]

4	1	3	9	10	5	8	2	6	7

× 2

8	2	6	18	20	10	16	4	12	14

4. [÷ Whole Numbers to 10]

10	45	50	40	30	20	15	35	5	25

÷ 5

2	9	10	8	6	4	3	7	1	5

START MAZE

FINISH
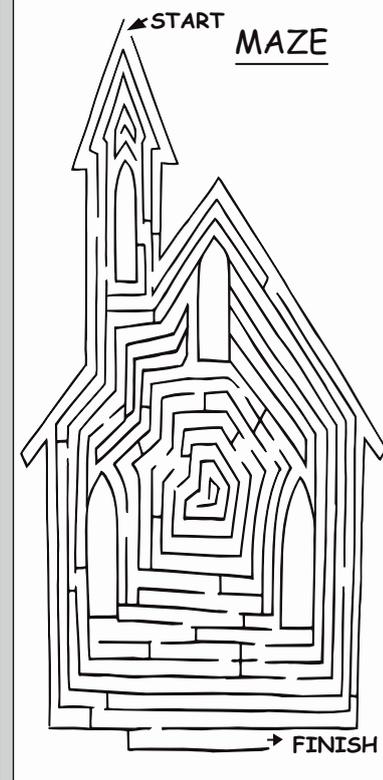
5. [Large Number +]

$$\begin{array}{r} 4\,3\,1 \\ +\,2\,0\,6 \\ \hline 6\,3\,7 \end{array}$$

6. [Large Number −]

$$\begin{array}{r} 8\,4\,9 \\ -\,3\,3\,2 \\ \hline 5\,1\,7 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 1\,9\,3 \\ \times\ 1\,0 \\ \hline 1\,9\,3\,0 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 2\,3\,2 \\ \times\ \ 3 \\ \hline 6\,9\,6 \end{array}$$

9. [Decimals]
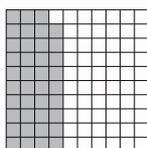
3 tenths +

9 hundredths =

0.39

10. [Fractions]
What fraction of the group of cubes is shaded?

$\dfrac{7}{10}$

11. [Decimals / Fractions]

5 tenths = **50** hundredths

12. [Place Value]
In the number 14 563 which of the digits 1, 4, 5, 6 or 3 lies in the thousands place?

4

13. [Operations]

$1 + 8 =$ **8** $+ 1$
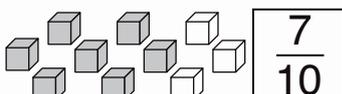
14. [Exploring Numbers]
Write in numerals:
two thousand, five hundred and eight

2508

15. [Number Patterns / Equations]

4, 9, 14, 19, 24, **29** , **34**

16. [Units of Measurement]
Choose the appropriate unit: centimetres, metres or kilometres.
"The distance around the base of Uluru is 9.4..."

kilometres

17. [Time]
Write the time in words.
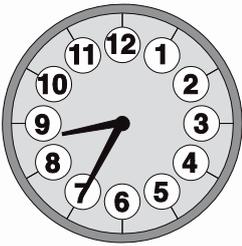
OR eight thirty-five

twenty-five to nine

18. [Measuring]
Estimate the length of the arrow.

10 mm

Accept 38 to 42 — **40** mm

19. [Shapes]
Is the angle "less than", "equal to" or "greater than" a right angle?

greater than

20. [Location / Transformation]
Which movement has transformed this shape?
A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

C
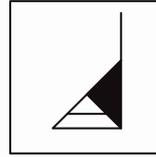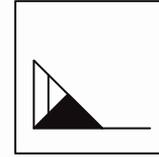
21. [Statistics / Probability]
Which coloured medal did New Zealand win most at the 2016 Rio Olympics?

NEW ZEALAND OLYMPIC MEDALS
(Rio 2016)

☐ gold   ☐ silver   ☐ bronze

silver

22. [Problem Solving 1]
In a car park, our car was fifth from one end of the row and twelfth from the other. How many cars were parked in our row?

16

23. [Problem Solving 2]
Fill in the missing digits in the subtraction.

$$
\begin{array}{r}
\boxed{8}\ 6\ \boxed{9} \\
-\ \ 3\ \boxed{3}\ 5 \\
\hline
5\ \ 3\ \ 4
\end{array}
$$

24. [Problem Solving 3]
Place a +, – or × sign in each box to make the equation correct.

7 $\boxed{\times}$ 7 $\boxed{-}$ 9 = 40

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MATHS MATE

YELLOW

Test 1
Covering worksheets 1.1 - 1.4

Name: ....

1. [+ Whole Numbers to 10]

7	5	6	4	1	8	2	9	10	3
+ 3									
10	8	9	7	4	11	5	12	13	6

2. [− Whole Numbers to 10]

13	11	9	14	15	6	7	12	10	8
− 5									
8	6	4	9	10	1	2	7	5	3

3. [× Whole Numbers to 10]

7	5	6	4	1	8	2	9	10	3
× 6									
42	30	36	24	6	48	12	54	60	18

4. [÷ Whole Numbers to 10]

2	14	12	6	8	16	10	20	18	4
÷ 2									
1	7	6	3	4	8	5	10	9	2
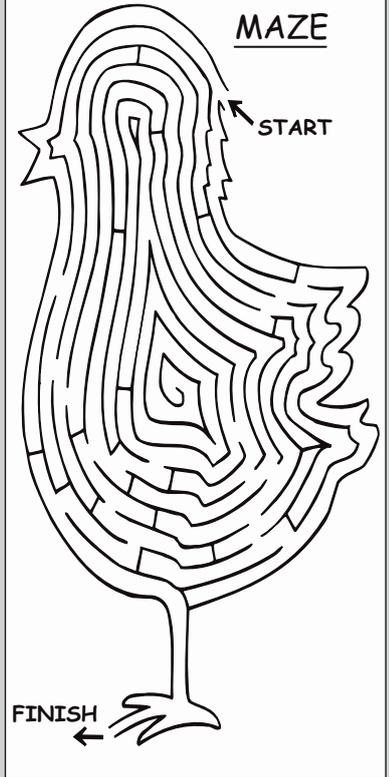
MAZE

START

FINISH

5. [Large Number +]

$$542 + 203 = 745$$

6. [Large Number −]

$$976 - 731 = 245$$

7. [Powers of 10 ×,÷]

$$368 \times 10 = 3680$$

8. [Large Number ×,÷]

$$123 \times 3 = 369$$

9. [Decimals]

3 tenths +

8 hundredths = 0.38

10. [Fractions]

What fraction of the hexagon is shaded?

$\dfrac{5}{6}$

11. [Decimals / Fractions]

one = 10 tenths

12. [Place Value]

In the number 47 258 which of the digits 4, 7, 2, 5 or 8 lies in the thousands place?

7

13. [Operations]

4 $+ 2 = 2 + 4$

14. [Exploring Numbers]

Write in numerals:
seven thousand and nine

7009

15. [Number Patterns / Equations]

4, 7, 10, 13, 16, $\underline{19}$, $\underline{22}$

16. [Units of Measurement]
Choose the appropriate unit: centimetres, metres or kilometres.
"One of New Zealands tallest waterfalls is Sutherland Falls with a height of 580..."

metres

17. [Time]
Write the time in words.

OR two fifty-five

five to three

18. [Measuring]
Estimate the length of the feather.

20 mm

Accept 75 to 85 → 80 mm

19. [Shapes]
Is the angle "less than", "equal to" or "greater than" a right angle?

less than

20. [Location / Transformation]
Which movement has transformed this shape?
A) flip (reflection)
B) slide (translation)
C) turn (rotation)

Position 1   Position 2

C
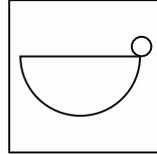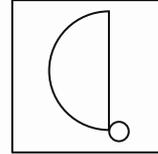
21. [Statistics / Probability]
What is the largest climatic zone in Australia?

Australian Climatic Zones (for temperature)
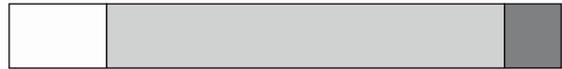
☐ Temperate   ☐ Hot / arid   ■ Warm / humid

hot / arid

22. [Problem Solving 1]
On our side of the road, our house is fourteenth from the north end of the block or eighth coming from the south. How many houses are there in the block on our side of the road?

21

23. [Problem Solving 2]
Fill in the missing digits in the subtraction.

$$\begin{array}{ccc} 8 & \boxed{5} & 2 \\ - \boxed{1} & 4 & \boxed{2} \\ \hline 7 & 1 & 0 \end{array}$$

24. [Problem Solving 3]
Place a +, – or × sign in each box to make the equation correct.

$9 \boxed{\times} 5 \boxed{+} 5 = 50$

1.1

22. **Hint:** Draw a diagram.
Solution: The floor is fourth from the top and fourth from the bottom. Being fourth from both ends means that it has been counted twice. Take one away for the double up.
$4 + 4 - 1 = 7$
The building is **7** floors high.

```
              top
            ┌───┐
            │ 1 │ ⎫
            │ 2 │ ⎬ 4
            │ 3 │ ⎭
mum ──→     │4 * 4│ ⎬ (−1)
            │ 3 │ ⎫
            │ 2 │ ⎬ 4
            │ 1 │ ⎭
            └───┘
            bottom
```
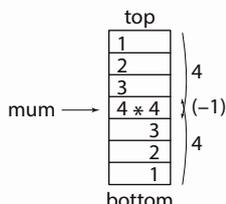
23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:

Units $0 + ? = 5$
              $0 + 5 = 5$
Write in the 5.

Tens $2 + 7 = 9$
Write in the 9.

Hundreds $1 + ? = 6$
              $1 + 5 = 6$
Write in the 5.

Check the sum.
The missing digits are:

```
    1   2   0
+  [ ]  7  [5]
   ─────────────
   6  [ ]  5
```

```
    1   2   0
+  [5]  7  [5]
   ─────────────
   6  [9]  5
```

24. **Hint:** Add the numbers you are given first. Use trial and error.
Solution:
$13 + ? + 35 = 80$
Add 13 and 35 first: $13 + 35 = 48$
The expression becomes:
$48 + ? = 80$
Ask: "What number, added to 48, makes 80?" OR "80 take away 48 leaves what number?"
Answer: "$80 - 48 = 32$"
The missing number is **32**.

1.2

22. **Hint:** Draw a diagram.
Solution: Jacinta's name is fifteenth from the top and fifteenth from the bottom. There are 14 before her and 14 after her on the class roll. Add one for herself.
$14 + 14 + 1 = 29$
There are **29** students in the class.

```
                    │
                    │ ⎫
                    │ ⎬ 14
                    │ ⎭
15th ──→ Jacinta (+1)
                    │ ⎫
                    │ ⎬ 14
                    │ ⎭
```
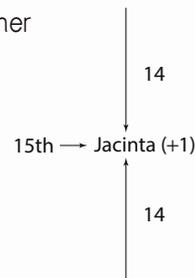
23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:

Units $? + 2 = 8$
              $6 + 2 = 8$
Write in the 6.

Tens $6 + ? = 9$
              $6 + 3 = 9$
Write in the 3.

Hundreds $? + 4 = 7$
              $3 + 4 = 7$
Write in the 3.

Check the sum.
The missing digits are:

```
   [ ]  6  [6]
+   4  [ ]  2
   ─────────────
   7   9   8
```

```
   [3]  6  [6]
+   4  [3]  2
   ─────────────
   7   9   8
```

24. **Hint:** Add the numbers you are given first. Use trial and error.
Solution:
$45 - ? + 20 = 28$
Add 45 and 20 first: $45 + 20 = 65$
The expression becomes:
$65 - ? = 28$
Ask: "What number, subtracted from 65, makes 28?" OR "28 added to what number makes 65?"
Answer: "$65 - 28 = 37$"
The missing number is **37**.

22. **Hint:** Draw a diagram.
Solution: The actual book is eleventh from the left and tenth from the right. Being mentioned from both ends means that it has been counted twice. Take one away for the double up.
$10 + 11 - 1 = 20$
There are **20** books on the shelf.

| | | | | | | | | | | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | right |
left | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | | | | | | | |

11   (−1)   10

22. **Hint:** Draw a diagram.
Solution: Linda is sixteenth from the start and sixteenth from the end. There are 15 before her and 15 after her in the queue. Add one for herself.
$15 + 15 + 1 = 31$
There are **31** people in the queue.

16th

15   (+1)   15
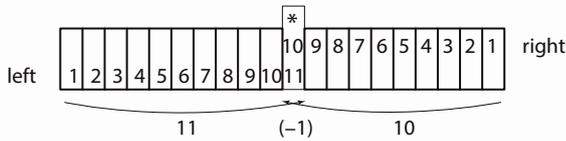
23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:
Units $6 - 4 = 2$
Write in the 2.

$$\begin{array}{r} \boxed{}\,9\;6 \\ -\;5\;\boxed{}\,4 \\ \hline 1\;7\;\boxed{2} \end{array}$$

Tens $9 - ? = 7$
            $9 - 2 = 7$
Write in the 2.

Hundreds $? - 5 = 1$
            $6 - 5 = 1$
Write in the 6.

Check the difference.
The missing digits are:

$$\begin{array}{r} \boxed{6}\,9\;6 \\ -\;5\;\boxed{2}\,4 \\ \hline 1\;7\;\boxed{2} \end{array}$$
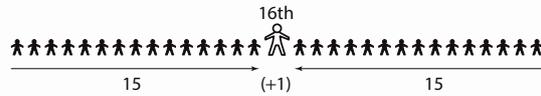
23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:
Units $8 - ? = 3$
            $8 - 5 = 3$
Write in the 5.

$$\begin{array}{r} 3\,\boxed{}\;8 \\ -\;\boxed{}\,4\;\boxed{5} \\ \hline 2\;2\;3 \end{array}$$

Tens $? - 4 = 2$
            $6 - 4 = 2$
Write in the 6.

Hundreds $3 - ? = 2$
            $3 - 1 = 2$
Write in the 1.

Check the difference.
The missing digits are:

$$\begin{array}{r} 3\,\boxed{6}\;8 \\ -\;\boxed{1}\,4\;\boxed{5} \\ \hline 2\;2\;3 \end{array}$$

24. **Hint:** Use trial and error.
Solution:

$0\;\boxed{}\;8\;\boxed{}\;8 = 8$

Consider that $0 + 8 = 8$ is the first operation from the left.
Ask: "What operation links 8 and 8 to get 8?"
Answer: "None."
Consider that $0 \times 8 = 0$ is the first operation from the left.
Ask: "What operation links 0 and 8 to get 8?"
Answer: "Addition."
In fact $0 + 8 = 8$
Try these operations in the equation.
The missing operations are:

$0\;\boxed{\times}\;8\;\boxed{+}\;8 = 8$

24. **Hint:** Use trial and error.
Solution:

$6\;\boxed{}\;8\;\boxed{}\;2 = 46$

Consider that $6 \times 8 = 48$ is the first operation from the left.
Ask: "What operation links 48 and 2 to get 46?"
Answer: "Subtraction."
In fact $48 - 2 = 46$
Try these operations in the equation.
The missing operations are:

$6\;\boxed{\times}\;8\;\boxed{-}\;2 = 46$

5.   [Large Number +]

Skill 5.1   Adding large numbers without carry over using columns.

- Always keep your working columns in line, aligning units with units, tens with tens, etc.
- Add from right to left.

Q.
```
  1 2 5
+    4 3
```

A.

hundreds tens units

```
  1 2 5
+   4 3
─────────
  1 6 8
```
(Units first!)

Units:
$5 + 3 = 8$ $\Rightarrow 8$ units

Tens:
$2 + 4 = 6$ $\Rightarrow 6$ tens

Hundreds:
$1 + 0 = 1$ $\Rightarrow 1$ hundred

a)
```
  6 3
+ 2 4
─────
  8 7
```
(Units first!)

b)
```
  3 8
+ 4 1
─────
```

c)
```
  1 5
+ 4 3
─────
```

d)
```
  1 3 4
+   2 3
───────
```

e)
```
  4 3 7
+ 1 5 2
───────
```

f)
```
  3 0 5
+ 6 8 1
───────
```

g)
```
  4 2 4 5
+   7 4 2
─────────
```

h)
```
  6 0 3 1
+ 2 3 5 8
─────────
```

i)
```
  2 1 2
  4 1 3
+   3 1
───────
```

j)
```
    5 3
  5 1 6
+   2 0
───────
```

k)
```
  1 1 4
    8 6 3
+     2 2
───────
```

l)
```
  7 1 6 4
  1 4 0 3
+   2 3 1
─────────
```

m)
```
  1 7 3 0
    1 5
  3 0 2 1
+   1 2
─────────
```

n)
```
  3 2 0 5
    2 1 0
    5 3 4
+   4 0
─────────
```

o)
```
  3 0 0
  4 0 2
  7 0 5 6
+   2 1
─────────
```

p)
```
  6 2 0 1
    1 4 0
  1 0 3 5
+ 3 2 2
─────────
```

13. [Operations]

COMMUTATIVE PROPERTY for +

$$2 + 5 = 7$$
$$5 + 2 = 7$$

You can add numbers in any order and not change the outcome.

SO $2 + 5 = 5 + 2$

Q. $6 + 3 = 3 + 6$
True or false?

A. true

Solve both sides of the equation and compare the results.
$6 + 3 = 9$
$3 + 6 = 9$
The results are the same.

a) $10 - 4 = 4 - 10$
True or false?

$10 - 4 = 6$ but

$4 - 10 \neq 6$ | false |

b) $4 + 5 = 5 + 4$
True or false?

c) $7 + 9 = 9 + 7$
True or false?

d) $9 - 3 = 3 - 9$
True or false?

e) $2 + 9 = 9 + 2$
True or false?

f) $8 - 1 = 1 - 8$
True or false?

g) $\boxed{8} + 2 = 2 + 8$

h) $9 + 6 = \boxed{} + 9$

i) $4 + 1 = \boxed{} + 4$

j) $\boxed{} + 5 = 5 + 2$

k) $\boxed{} + 7 = 7 + 5$

l) $3 + 9 = \boxed{} + 3$

m) $\boxed{} + 13 = 13 + 6$

n) $17 + 10 = \boxed{} + 17$

o) $11 + 19 = \boxed{} + 11$

p) $\boxed{} + 22 = 22 + 14$

q) $\boxed{} + 17 = 17 + 12$

r) $15 + 18 = \boxed{} + 15$

s) $13 + \boxed{} = 31 + 13$

t) $\boxed{} + 16 = 16 + 28$

u) $27 + \boxed{} = 7 + 27$