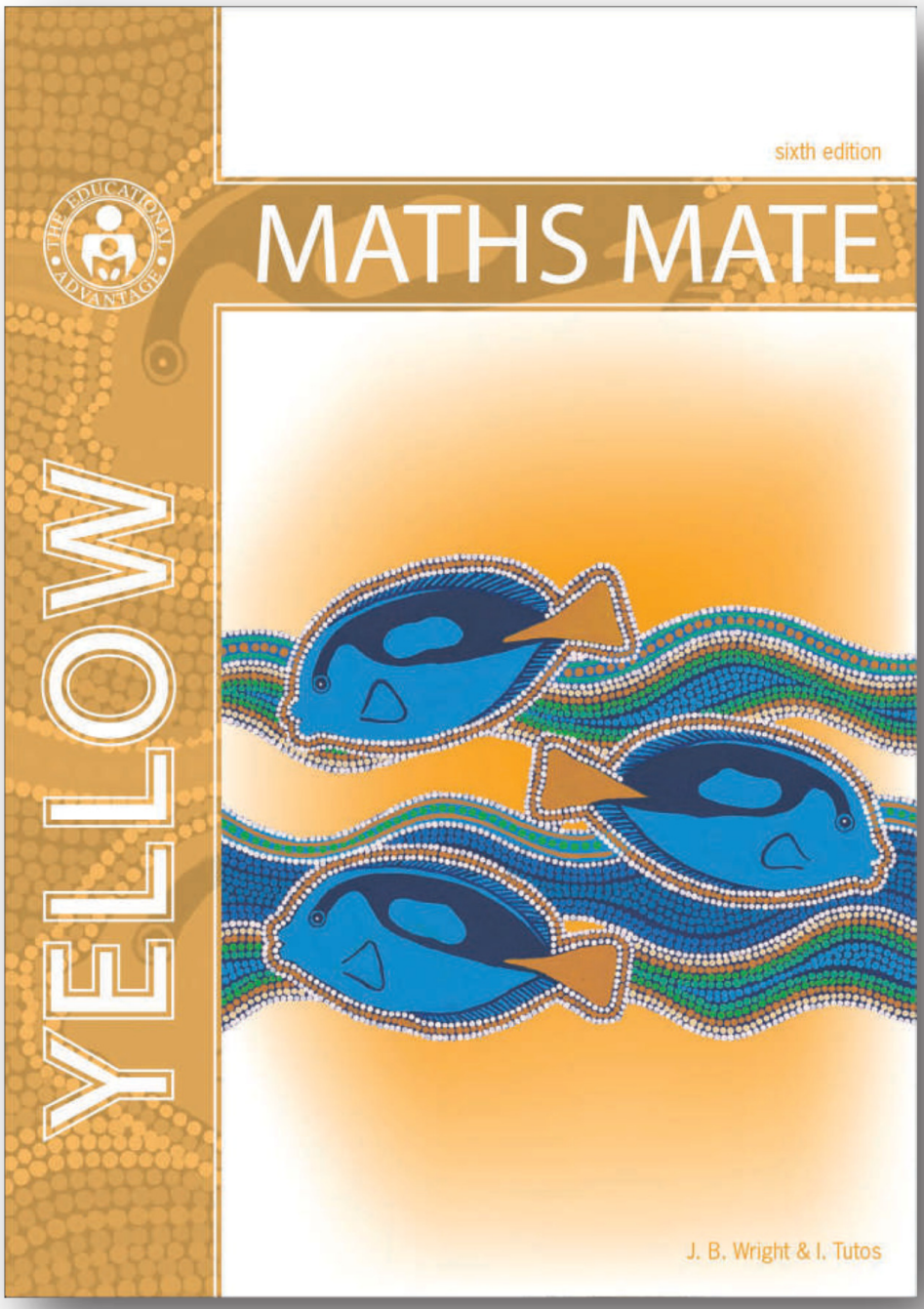
TEACHER RESOURCES

MATHS MATE



J. B. Wright & I. Tutos

sixth edition

MATHS MATE

Teacher Resource Yellow (Maths Mate year 5)

- Teacher's Guide to the Use of Maths Mate
- Student Workbook Answers
- Student Workbook Short Answers
- Problem Solving Hints & Solutions
- Test Masters
- Test Answers
- Record Keeping Sheets

For your free Skill Builder Yellow/Red contact us:

info@mathsmate.net

J. B. Wright & I. Tutos

YELLOW

MATHS MATE

Teacher Resource

This Teacher Resource PDF
comes with a limited
Lifetime Update Guarantee.

Each time a new edition of the
Maths Mate Program is released,
an upgrade for your
Teacher Resource PDF is available
FREE* of charge
when you contact us direct.

This ensures that each teacher can have the latest edition without your school having to incur any further costs. We have chosen to do this to demonstrate the strength of our belief that access to a Teacher Resource PDF is important in the smooth running and success of the programme.

* The free Teacher Resource PDF is limited to schools that continue to purchase at least 25 student workbooks.

MATHS MATE

Student Workbook - 6th Edition

ISBN 978 1 925114 80 5

J. B. Wright & I. Tutos

Preface

The Maths Mate Review Program is designed to be used in schools by students from years 3 to 10 (Australia) and years 4 to 11 (New Zealand). Emphasis is placed on the review and gradual development of basic skills.

It is not expected that all students will be able to complete every question from week one. Some questions have been designed to offer a real challenge. However, a major strength of the program is that students are consistently confronted with problems relating to their understanding of the same basic skill, encouraging them to see the need to master that skill in order to progress.

RECOMMENDED GRADE / YEAR LEVEL INDICATOR

		AUS 1	2	3	4	5	6	7	8	9	10	11	12
Orange	Student Workbook - 2nd Ed.												
Rose	Student Workbook - 2nd Ed.												
Yellow	Student Workbook - 6th Ed.												
Red	Student Workbook - 6th Ed.												
Blue	Student Workbook - 6th Ed.												
Green	Student Workbook - 6th Ed.												
Mauve	Student Workbook - 6th Ed.												
Coffee	Student Workbook - 3rd Ed.												
Lime	Student Workbook - 6th Ed.												
Silver	Student Workbook - 3rd Ed.												
		NZ Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13

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Maths Mate Yellow cover painting
Pacific Regal Blue Tang - 2003
Acrylic on canvas 45 × 60 cm
by Australian artist Susan Betts - Kokata, Mirning and Wirangu.

'Pacific Regal Blue Tang' was purchased by The Educational Advantage who have been kindly given permission to reproduce the painting. This contemporary Aboriginal artwork combines traditional and modern techniques. Susan's rich and vibrant art reflects the Australian landscape and wildlife, both flora and fauna.

PREFACE

The Author
Joseph Wright has taught in a number of schools throughout Australia and also in the United States of America. His experiences led him to the firm belief that there was a real need for a Mathematics program which was based on a constant review of the basic skills which students acquire. The Maths Mate Program was designed to meet that need.

Acknowledgements
"The completion of this project was made possible by the hard work and inspiration of Joanna Tutos, Lou McKenna and Julie Moyle. Thanks to John and Wilma McCormack and the many colleagues and friends who contribute to the overall program. Special thanks to my wife Trish and our children, Peter, David, Rebecca, Paul and Anthony for their investment of time, energy, encouragement and faith."

Preface
The Maths Mate Program has been designed to be used in schools by students from Years 3 to 10 (Australia) and Years 4 to 11 (New Zealand). Emphasis is placed on the review and gradual development of basic skills so that students keep their skills up to date and teachers need to spend less class time on revision when starting new or subsequent topics.

The program is designed to have students complete eight worksheets each term. It is not expected that all students will be able to complete every question from week one. Some questions have been designed to offer a real challenge. However, a major strength of the program is that students are consistently confronted with problems dealing with their understanding of the same basic skills, encouraging them to see the need to master those skills in order to progress.

Maths Mate is a very comprehensive program which is not only structured to help students see a logical progression in their work but also to make life easier for teachers. Easy to use record keeping sheets have been provided on the Teacher Resource PDF. The tests, which are given twice a term, provide a very good indication of individual student strengths and weaknesses and this information can also be very valuable for addressing specific problems as well as assessing progress.

Aims of the Maths Mate Program

- Provide students with regular work that helps maintain and develop skills acquired throughout the year.
- Present a structured approach so that students can see their development in specific skill areas.
- Encourage students to take responsibility for their own learning.
- Provide a challenging level of work for all students.
- Encourage parental involvement in the learning process.
- Assist teachers in the diagnosis of student strengths and weaknesses.
- Provide teachers with a concrete method of assessing students' effort and progress on a regular basis.
- Provide a consistent review program which ensures students are regularly being exposed to the

Mathematical skills appropriate to their ability level.

A Teacher's Guide to the successful Implementation of the

MATHS MATE PROGRAM

The Maths Mate Program offers many valuable benefits, including the aspects of parental involvement, systemised revision, individual and group diagnostics, enhanced professional standing for teachers, and most importantly, improved efficiency in student learning. However, a number of these factors may be negated or even lost if an individual teacher or school does not effectively implement the program. The Maths Mate Program was designed with an awareness of the increasing time demands placed on classroom teachers by ever-changing curriculum development and more involved assessment and reporting procedures. Maths Mate is a dynamic tool for classroom teachers designed to effectively improve student outcomes in Mathematics, to report accurately on these and to do so within a manageable time frame.

This guide was written to assist with the implementation of Maths Mate. This first page sets out the planning and preparation required by the Head of Mathematics and/or Maths Mate Coordinator, where one is appointed, before beginning the program. The following pages are a guide for classroom teachers using the program.

SUGGESTIONS FOR PREPARATION AND ORGANISATION:

Make sure parents are given advanced notice of the implementation of the Program. This might include an introduction at Parent Information meetings at the end of the year in preparation for the next.

At the start of the new school year a letter should be sent home to parents (see PDF ~ Teacher's Guide to the use of Maths Mate, or the editable word.doc, or www.mathsmate.co.nz ~ Downloads). Parental involvement should be encouraged. Their checking to see that work is completed weekly, and their signing of each sheet, should be stressed as important to the program's success. (A follow up reminder later in the year should also be considered.)

If you are fortunate enough to have audio visual screens in your classrooms, you might consider showing the answers from the Student Workbook Answers PDF files.

Thoroughly brief teachers on the use and advantages to them of the Maths Mate Program. Greater commitment will be given by all teachers if they are aware of the goals underlying the program and have a thorough understanding of the most efficient ways of implementation.

Give a demonstration of marking and recording procedures, and the potential use of *Skill Builders*, as an inservice exercise prior to the start of the school year. The pages that follow may be of assistance here.

Important: If the school has purchased the student workbooks for the students, you may be able to organise the separation of the workbooks (see page iv) prior to the start of the year, perhaps even at the end of the current year.

Reminder: The Teacher Resource PDF will be replaced free of charge when a class set of a revised edition is purchased.

It is often possible for The Educational Advantage to send a representative of the Maths Mate Program to visit your school. Should you consider this assistance advantageous, please contact us to arrange a visit.

Phone: 03 9899 9065 (Australia)
Email: info@mathsmate.net

Phone: 07 929 4063 (New Zealand)
Email: info@mathsmate.co.nz

The effective use of Maths Mate requires some good house-keeping on the part of teachers involved.

STARTING THE YEAR:

Each student will receive a Maths Mate Student Workbook appropriate to his or her level. This workbook will contain 32 worksheets of increasing difficulty. (Having 8 worksheets per term allows some flexibility to schools.)

Collect the workbooks from the students on the first day of the year. Use a class list to be sure that any student who has not yet obtained a copy is identified.

Organise for the pages of the student workbooks to be separated so that class sets of each worksheet can be placed in manila folders or plastic pockets for distribution to students on a weekly basis. (The help of teacher assistants, students or a parent support group may be useful here.) This avoids problems with a student losing a workbook and having trouble completing Maths Mate work for the remainder of the year. The covers can be used as a colourful divider to mark a section for Maths Mate work should the students be using a binder.

At the start of the year, brief your class on the advantages of the program. 'Sell' them the gains they can make with its effective use. Emphasise that, because of the nature of human memory, this program with its systematic, cyclic revision allows for maximum 'absorption' of learned procedures and for the strong reinforcement of important skills. These skills are a necessary prerequisite to problem-solving. Also explain that this is one of their responsibilities in the 'Teaching-Learning Process' and that as they progress further through the educational system, they will need to accept greater personal responsibility for their own learning.

Ensure that you take the time to fully explain the use of the program, how it will be marked, the recording process of results and the diagnostic benefits of those results for identification of appropriate *Skill Builders*.

See that each child receives a letter to parents informing them of the Maths Mate Program. Stress the parental involvement and the need for signatures on each sheet and see that you collect all the return slips for your class.

When submitting work, students might be asked to attach a separate sheet showing appropriate steps in their working. If the question can be answered in a single step, there is little to be gained from asking students to copy the question. If an intermediate step is required to obtain the answer, the student should set the question out appropriately. Such questions are marked with an asterisk ' * ' to indicate to students that working is expected to be shown.

Emphasise that all problems on the worksheets and test sheets are designed to be attempted without the aid of a calculator. Students are unlikely to become confident Mathematicians if they do not have a reasonable background of basic skills.

It is important to explain your expectations to the class. Naturally these will be relative to their level of mathematical ability. Some class members may be expected to attempt all questions including the problems at the end whereas others may only be expected to complete the sheets in part (but encouraged to go further when possible).

Also explain that the material covered in each worksheet may not necessarily reflect the work being undertaken in class at the time. The work covered by the Maths Mate Program should, with minor exceptions, be revision of work introduced in previous years of study. The exceptions will depend to some degree on the background of your students.

Tell the students that there is a 'Mate' ☺ hiding on every Maths Mate worksheet. The trick is to find it!

STARTING EACH TERM:

At the start of every term give each student a new *Worksheet Results* sheet located at the beginning of each term in the Student Workbook. Explain the importance of the upkeep of this document and how it may be used to identify which skills they have acquired and which skills they still need to learn and practise. Introduce the availability of *Skill Builders*. Providing a new sheet each term gives you a chance to further encourage students to make a fresh start and to set new goals for the term.

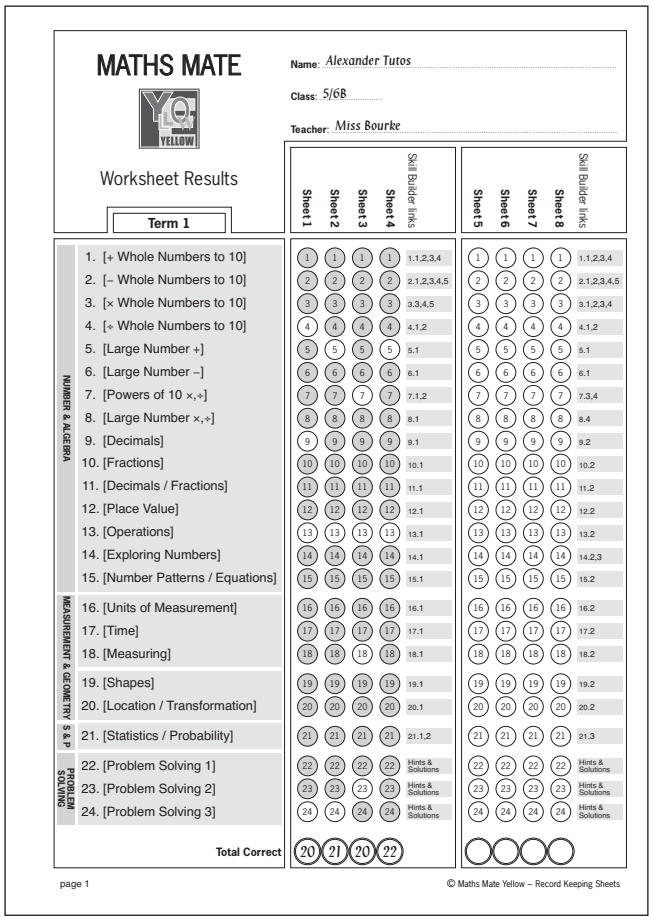
A hard copy of this profile sheet is best kept by the class teacher and handed back to the students every week for them to update during the correction process. Extra copies can be made for those students who would like to have a copy of their own to show their parents (see PDF ~ Record Keeping Sheets, pages 1 to 4, or www.mathsmate.co.nz ~ Downloads).

WEEK - TO - WEEK:

Get the students into a routine early. Assign the Maths Mate worksheet at the same time each week and have it returned on the same day the following week.

On the date worksheets are due, the teacher and students correct answers together in class. When marking, have students correct their own work by reading the answers to them or use an overhead screen. Having students correct their own work is less about saving the teacher's time for more important work, but more about building the process of developing in students responsibility for their own learning. It also means that students end up with a much clearer idea of the areas in which they need to concentrate their efforts.

When giving the answers, avoid pausing to discuss the answers at this stage. By using the numbered circles at the base of the worksheets to record correct responses, the time taken to transfer results to the *Worksheet Results* sheet can be minimised (see Fig. 1). The circles at the base of each worksheet can be rotated and aligned with those on the *Worksheet Results* sheet to enable a quick transfer of the correct responses.


MATHS MATE

YOU YELLOW

Worksheet Results

Term 1

Name: Alexander Tutos

Class: 5/6B

Teacher: Miss Bourke

		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 & GEOMETRY	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	20	21	20	22						

page 1

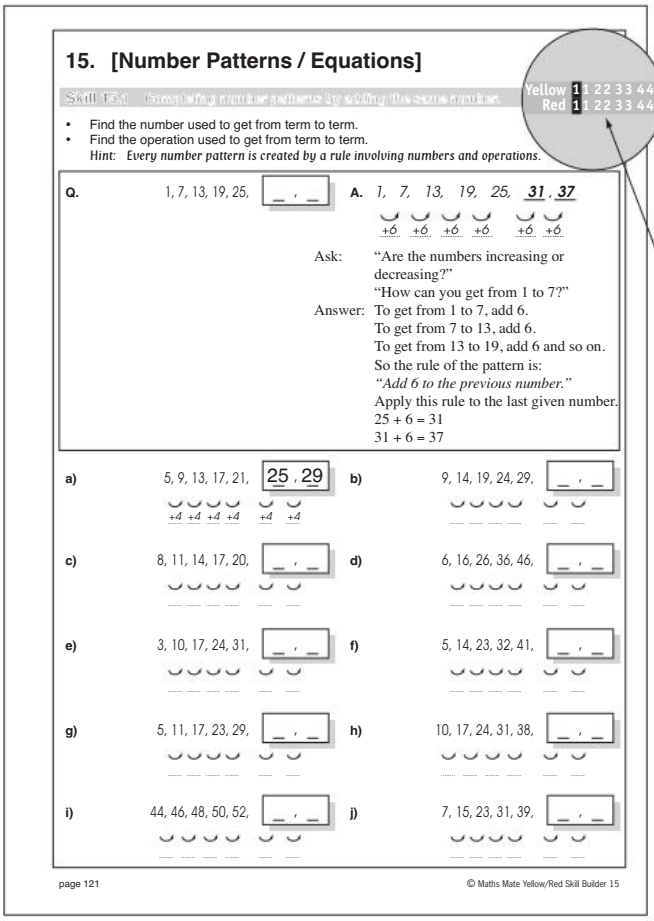
© Maths Mate Yellow – Record Keeping Sheets

Fig. 1 - Sample *Worksheet Results* sheet

Should there be need for explanation of one or more answers or perhaps how a problem was solved, you can decide on the relative worth to the class and commit appropriate time on that basis. After the correction has been completed, it can be valuable to spend time on a problem that has clearly attracted the class's attention while they are focused on it and their interest is high. On the other hand, care needs to be taken to ensure extended periods of time are not spent catering to individual needs with the bulk of the class waiting.

Remember to check the *Problem Solving Hints & Solutions* (see PDF ~ Problem Solving Hints & Solutions, pages 1 to 18). They supply teachers with ready answers to the more challenging problem solving questions found at the end of each Maths Mate worksheet. They also contain helpful hints for developing students' problem solving skills.

Have the students fill in their *Worksheet Results* sheets and select a relevant *Skill Builder* sheet if appropriate. *Skill Builder* links are listed beside each set of four worksheets (see Fig. 1). Students should work through the *Skill Builders* in order. Where possible the skills are arranged in increasing degree of difficulty. Be aware that some skills may require the knowledge of previous skills. Generally when a student has several areas of weakness, he or she should work on the lowest numbered question first. For example, students struggling with Q5 and Q7 will need to build skills required for Q5 before they can improve Q7.



15. [Number Patterns / Equations]

Skill 15.1 Completing number patterns by adding the same number

Yellow 1 1 2 2 3 3 4 4
Red 1 1 2 2 3 3 4 4

- Find the number used to get from term to term.
- Find the operation used to get from term to term.

Hint: Every number pattern is created by a rule involving numbers and operations.

Q. 1, 7, 13, 19, 25, _ , _

A. 1, 7, 13, 19, 25, 31 , 37

+6 +6 +6 +6 +6 +6

Ask: "Are the numbers increasing or decreasing?"
"How can you get from 1 to 7?"

Answer: To get from 1 to 7, add 6.
To get from 7 to 13, add 6.
To get from 13 to 19, add 6 and so on.
So the rule of the pattern is:
"Add 6 to the previous number."
Apply this rule to the last given number.
25 + 6 = 31
31 + 6 = 37

a) 5, 9, 13, 17, 21, 25 , 29 (+4 +4 +4 +4 +4 +4)

b) 9, 14, 19, 24, 29, _ , _

c) 8, 11, 14, 17, 20, _ , _

d) 6, 16, 26, 36, 46, _ , _

e) 3, 10, 17, 24, 31, _ , _

f) 5, 14, 23, 32, 41, _ , _

g) 5, 11, 17, 23, 29, _ , _

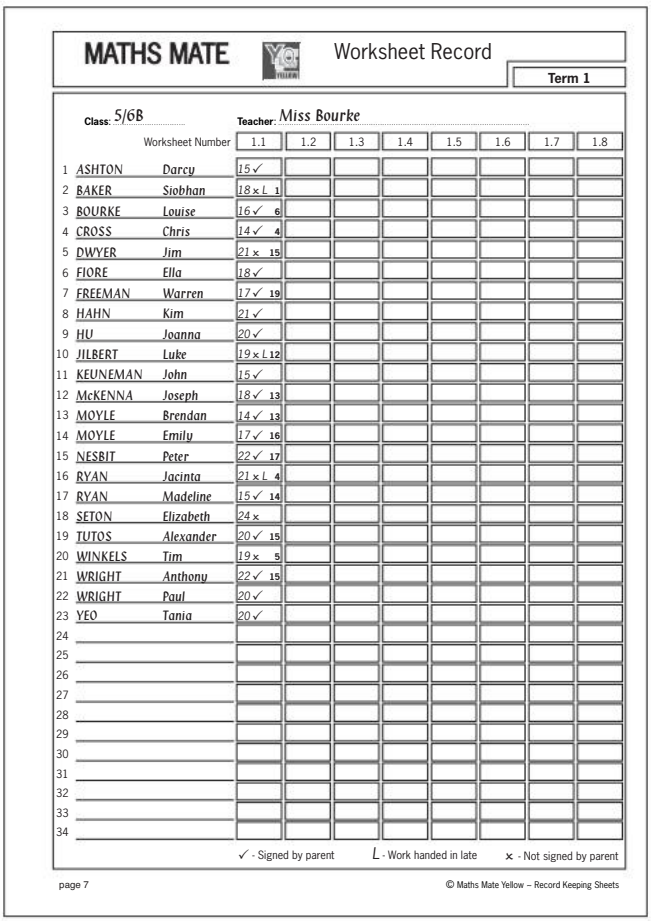
h) 10, 17, 24, 31, 38, _ , _

i) 44, 46, 48, 50, 52, _ , _

j) 7, 15, 23, 31, 39, _ , _

page 121 © Maths Mate Yellow/Red Skill Builder 15

Fig. 2 - Sample *Skill Builder* sheet



MATHS MATE Worksheet Record

Term 1

Class: 5/6B Teacher: Miss Bourke

			Worksheet Number	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
1	ASHTON	Darcy		15✓							
2	BAKER	Siobhan		18 x L 1							
3	BOURKE	Louise		16✓ 6							
4	CROSS	Chris		14✓ 4							
5	DWYER	Jim		21 x 15							
6	FIORE	Ella		18✓							
7	FREEMAN	Warren		17✓ 19							
8	HAHN	Kim		21✓							
9	HU	Joanna		20✓							
10	JILBERT	Luke		19 x L 12							
11	KEUNEMAN	John		15✓							
12	McKENNA	Joseph		18✓ 13							
13	MOYLE	Brendan		14✓ 13							
14	MOYLE	Emily		17✓ 16							
15	NESBIT	Peter		22✓ 17							
16	RYAN	Jacinta		21 x L 4							
17	RYAN	Madeline		15✓ 14							
18	SETON	Elizabeth		24 x							
19	TUTOS	Alexander		20✓ 15							
20	WINKELS	Tim		19 x 5							
21	WRIGHT	Anthony		22✓ 15							
22	WRIGHT	Paul		20✓							
23	YEO	Tania		20✓							
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											

✓ - Signed by parent L - Work handed in late x - Not signed by parent

page 7 © Maths Mate Yellow – Record Keeping Sheets

Fig. 3 - Sample *Worksheet Record* sheet

Understand that any question on the Maths Mate worksheets is part of a set of four similar questions in the term. For example, consider sheets 1, 2, 3 and 4 in MM Yellow (year 5) term 1. Question 10 on each sheet is similar in design, content and degree of difficulty. This grouping of question style is also true for the next set of four worksheets and so on. Thus the Maths Mate tests (see PDF ~ Test Masters, 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 four similar questions. These links are identified, not only on the *Worksheet Results* sheet but also on the grid at the title of each *Skill Builder* (see Fig. 2). Both references should be helpful for the allocation of *Skill Builders* to students.

Collect the students' Maths Mate worksheets and attached working, the *Worksheet Results* sheets and any completed *Skill Builders*.

Enter Maths Mate results onto your *Worksheet Record*, see Fig. 3 (see also PDF ~ Record Keeping Sheets, pages 7 to 10, or www.mathsmate.co.nz ~ Downloads). Firstly, a record of the total number of correct answers for each week can be written. The presence of a parent's signature may also be noted to monitor whether work was attempted by the student at home. Late work can also be noted. This system is explained at the base of the *Worksheet Record* sheet. Finally, a record of any *Skill Builder* completed or reward given to the student for good or improving work might be noted.

It is important that students are encouraged to complete every Maths Mate worksheet to maintain the effectiveness of the program.

***Skill Builders* are available to students, teachers and parents from the Maths Mate websites** www.mathsmate.net and www.mathsmate.co.nz The Skill Builders extensively target through instruction and practice, all skills within the related Maths Mate Program except the problem solving questions. The *Skill Builders* also contain a *Glossary* of important facts and reference material that will provide instant help when students experience difficulties. Parents could be reminded of their access to this facility.

AFTER EVERY FOUR WORKSHEETS:

Tests are given twice a term. These tests take the same format as the worksheets and are based on the previous four worksheets. A and B tests are provided to allow alternate students to have a different test, thereby ensuring scores accurately reflect the student's own work. (The two tests can be distinguished by their label at the base of the second page, e.g. Yellow~Test 3A and Yellow~Test 3B.) The tests serve a number of purposes. They give the teacher a more accurate indication of the student's abilities in conditions where the child does not have the assistance of a parent or tutor. They also help to motivate students to correct their work accurately and increase their desire to learn the required skills. Without the tests, students may become comfortable with seeking assistance to achieve high scores, unaware of the importance of fully understanding their work.

It is at this point that teachers record accurately how students are performing in each area of skill. A *Test Results* sheet is provided (see PDF ~ Record Keeping Sheets, page 5, or www.mathsmate.co.nz ~ Downloads). It is expected that one of these forms be completed for each student in the class when recording test results. Again, the numbering system at the bottom of each page helps speed up this process. When administering the tests, it is advisable to have an assignment of some form or a *Skill Builder* worksheet available for students to begin as soon as they complete the test, which may only take 30 minutes for an able student.

TOPIC - TO - TOPIC:

A periodic check of the *Test Results* sheets will assist you in evaluating individual or possible class areas of concern. You can then plan appropriate *Skill Builder* work or advise individual students of concerns (perhaps as a guide to tutoring). It will also give you a valuable indication of the background skills students have before beginning a new topic, allowing you to tailor your lessons appropriately. In fact you are saved from having to pre-test students before each topic. This will result in a considerable saving of class time.

END OF SEMESTER:

Combined, the *Worksheet Results* sheet, the *Test Results* sheet and the *Worksheet Record* sheet become invaluable for writing reports and for preparing for parent / teacher interviews. They give a good indication to parents, not only of the child's skills but also of the consistency of their effort and the degree of responsibility they have assumed for their learning. At the end of the year, particularly when moving into a level where streaming occurs or into senior Mathematics classes, these records allow clear comparisons of students to be made across class groups.

MERIT CERTIFICATES:

Merit Certificates can be used to encourage and reward selected students for consistent work, outstanding results or best of all, for significant improvement. A master Merit Certificate can be found on the Teacher Resource PDF and can be printed and presented to students at the teacher's discretion.

We are confident you will find the Maths Mate Program a valuable asset to your teaching. We thank all those teachers who have provided feedback on this program and we value further comments and suggestions. Please direct all correspondence to:

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Website: www.mathsmate.co.nz

Dear Parents,

This year, as part of their Mathematics program, all Year 5/6 students will be given a Maths Mate worksheet on a regular basis. There will be 8 worksheets to be completed each term, generally one per week, the exceptions being short or disrupted weeks.

The Maths Mate worksheets have been designed to allow students to attempt all questions without the aid of a calculator, and this should be encouraged at home.

Don't be too concerned if your child finds the initial worksheet difficult. It is not expected that students will be able to complete every question from week one; in fact Q24 has been included to offer a real challenge to all students. Each worksheet is built around a common framework of questions aimed at covering the current Mathematics Curriculum.

While there is room on the worksheet for the recording of answers, this is only intended as a summary of the student's work. An asterisk ' * ' has been used to indicate those questions where each student has been asked to show his or her working. In these cases the detail normally expected in Mathematics should be included, with all steps in the development of answers clearly shown. This working should be attached to the worksheet and submitted with it.

Corresponding questions on each worksheet cover the same skill area; that is, Q1 always tests adding whole numbers to 10, Q2, subtracting whole numbers to 10, and so on with the questions within each category becoming progressively more difficult from week to week.

Students will be confronted by the same type of question on a regular basis. The diagnostic nature of the worksheets will help students and teachers to identify areas of strength and weakness. This should also help to motivate students to make another attempt at mastering skills that they may have found too difficult in the past. As well, the results sheet, if completed accurately, will allow students to enjoy monitoring their own improvement.

If your child is having difficulty with a certain skill, Skill Builders are available to students, teachers and parents from the Maths Mate websites **www.mathsmate.net** and **www.mathsmate.co.nz** The Skill Builders also contain a Glossary of important facts and reference material that will provide students with instant help.

It would be appreciated if you would complete the tear off slip at the bottom of this page so that we can be sure that you are aware of our expectations. We ask also that you sign the completed worksheet each week to acknowledge that your child is working independently and regularly but with your support.

We thank you in anticipation of your involvement and remind you that you are encouraged to call and discuss your child's progress at any time.

Yours sincerely,

Class Teacher

Principal

Maths Mate Program - Return Slip

Student's Name: ..... Class: .....

As a parent / guardian I have signed this form to indicate that I am aware of the Maths Mate requirements expected of my child.

Parent's Signature: ..... Date: .....

MATHS MATE

Teacher Resource

MATHS MATE

Term 1 - Sheet 1

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)  b)  c) 

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

Answer: Sheet 3.5

5. [Large Number +]

$$\begin{array}{r} 22 \\ +\,45 \\ \hline 67 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 38 \\ -\,23 \\ \hline 15 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 35 \\ \times\,10 \\ \hline 350 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 32 \\ \times\;\;3 \\ \hline 96 \end{array}$$

9. [Decimals]

29 hundredths = 0.29

10. [Fractions]

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

[any 2 triangles]

11. [Decimals / Fractions / Percentages]

one = 10 tenths

12. [Place Value]

Name the place of the underlined digit in the number 1$\underline{9}$3. [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

16. [Units of Measurement]

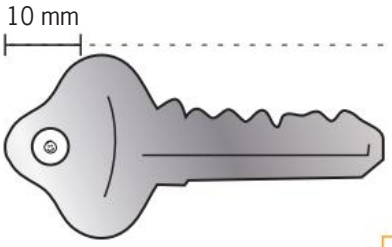
Choose the appropriate unit: centimetres, metres or kilometres.

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

metres

17. [Measuring]

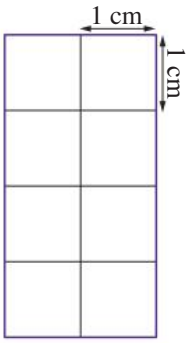
Estimate the length of the key.



accept 45 to 55 → 50 mm

18. [Perimeter / Area]

Find the perimeter of this shape.

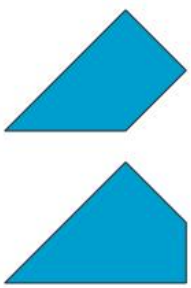


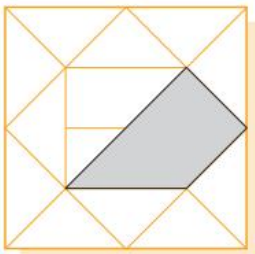
12 cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.

[Same size and orientation.]

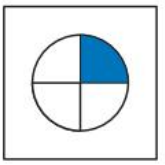




20. [Location / Transformation]

Which movement has transformed this shape?

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

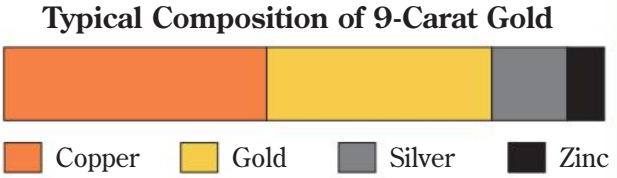

Position 1


Position 2

C

21. [Statistics / Probability]

What is the main metal in 9-carat gold?



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 + 32 + 35 = 80

MATHS MATE

Term 1 - Sheet 2

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 +]

$$\begin{array}{r} 142 \\ +\,332 \\ \hline 474 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 96 \\ -\,32 \\ \hline 64 \end{array}$$

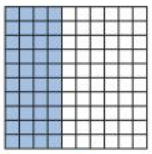
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 274 \\ \times\ 10 \\ \hline 2740 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 21 \\ \times\ 4 \\ \hline 84 \end{array}$$

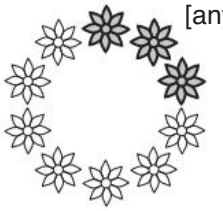
9. [Decimals]



4 tenths = 0.4

10. [Fractions]

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



[any 3 flowers]

11. [Decimals / Fractions / Percentages]

one = 100 hundredths

12. [Place Value]

Name the place of the underlined digit in the number 45<u>2</u>. [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

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

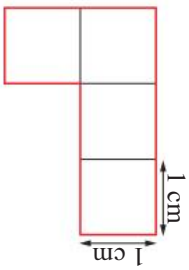
17. [Measuring]

Estimate the length of the hammer head.

accept 8 to 10 → 9 cm

18. [Perimeter / Area]

Find the perimeter of this shape.

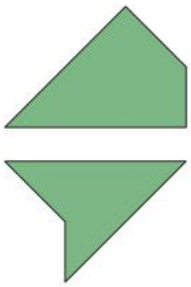


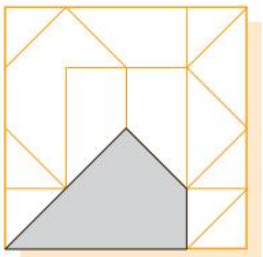
10 cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.

[Same size and orientation.]

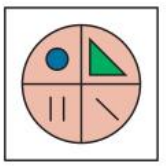




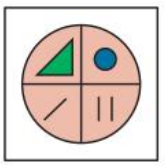
20. [Location / Transformation]

Which movement has transformed this shape?

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



Position 1

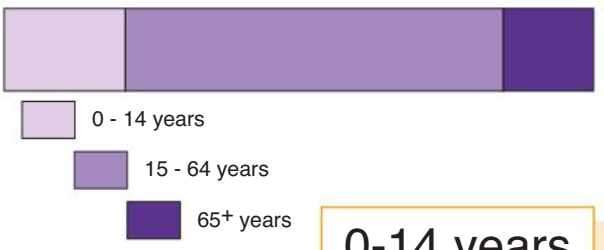


Position 2

A

21. [Statistics / Probability]

Which age group of the New Zealand population is the second largest?



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 – 37 + 20 = 28

MATHS MATE

Term 1 - Sheet 3

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 –]

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

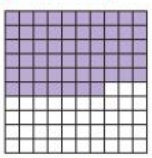
7. [Powers of 10 ×,÷]

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

8. [Large Number ×,÷]

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

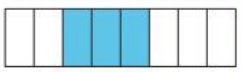
9. [Decimals]



5 tenths + 7 hundredths = 0.57

10. [Fractions]

What fraction of the rectangle is shaded?



$\frac{3}{8}$

11. [Decimals / Fractions / Percentages]

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

16. [Units of Measurement]

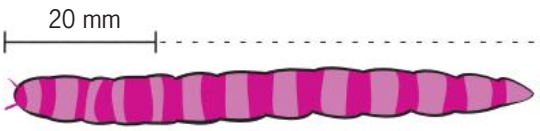
How many of these objects are likely to have a mass less than 1 kilogram?

A dry, inflated NRL football ☑
A long, woollen overcoat ☐
A banana ☑
A glass of water ☑

3

17. [Measuring]

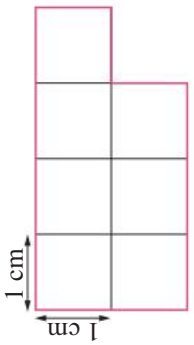
Estimate the length of the worm.



accept 65 to 75 → 70 mm

18. [Perimeter / Area]

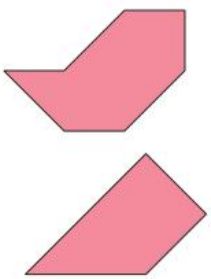
Find the perimeter of this shape.

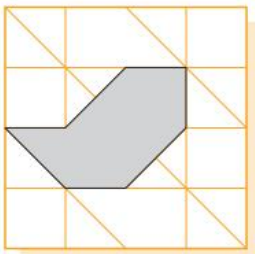


12 cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.
[Same size and orientation.]

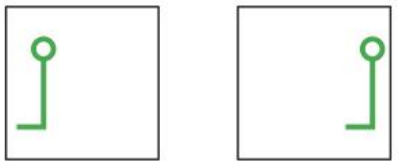




20. [Location / Transformation]

Which movement has transformed this shape?

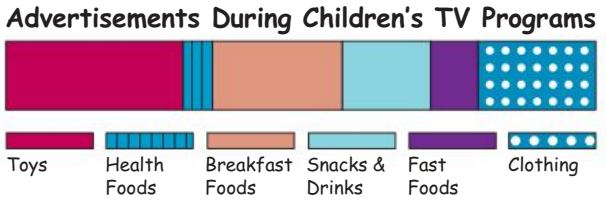
A) flip (reflection)
B) slide (translation)
C) turn (rotation)



B

21. [Statistics / Probability]

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



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.

	6	9	6
−	5	2	4
	1	7	2

24. [Problem Solving 3] *

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

0 × 8 + 8 = 8

MATHS MATE

Term 1 - Sheet 4

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 +]

$$\begin{array}{r} 122 \\ 311 \\ +\,504 \\ \hline 937 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 947 \\ -\,533 \\ \hline 414 \end{array}$$

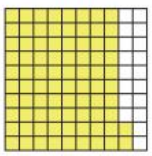
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 1382 \\ \times\quad 10 \\ \hline 13820 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 122 \\ \times\quad 4 \\ \hline 488 \end{array}$$

9. [Decimals]



8 tenths +

2 hundredths = 0.82

10. [Fractions]

What fraction of the stars is shaded?

$\frac{4}{5}$

11. [Decimals / Fractions / Percentages]

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]

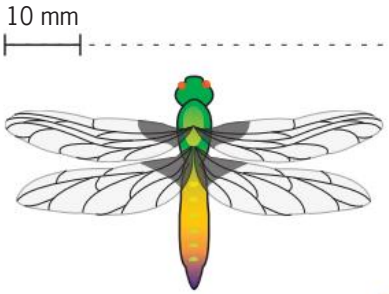
How many of these objects are likely to have a capacity less than 1 litre?

- A mug of hot chocolate ☑
- A water tank ☐
- A medicine bottle ☑
- An esky ☐

2

17. [Measuring]

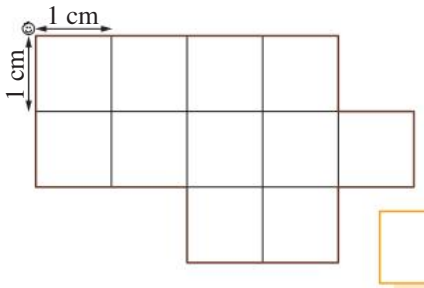
Estimate the wingspan of the dragonfly.



accept 45 to 55 → 50 mm

18. [Perimeter / Area]

Find the perimeter of this shape.

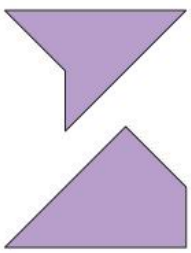


16 cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.

[Same size and orientation.]



20. [Location / Transformation]

Which movement has transformed this shape?

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

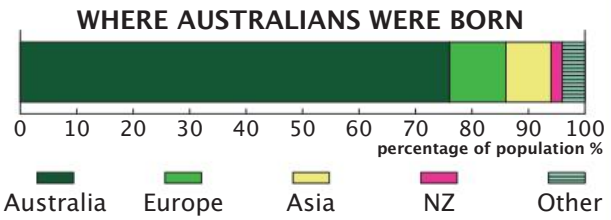
Position 1

Position 2

A

21. [Statistics / Probability]

In what region were approximately 10% of Australians born?



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 [×] 8 [–] 2 = 46

MATHS MATE

Term 1 - Sheet 5

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

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

ADDITION SHORTCUTS

Whenever you want to add 9 to a number, add 10 first and then subtract 1.

example: 6 + 9
= 6 + 10 subtract 1
= 16 subtract 1
The answer is 15.

See if you can do these:

a) 8 + 9
b) 17 + 9

How would you add 99?

Answer: a) 17, b) 26
Add 100, then subtract 1

5. [Large Number +]

$$\begin{array}{r} 43 \\ +\,46 \\ \hline 89 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 79 \\ -\,24 \\ \hline 55 \end{array}$$

7. [Powers of 10 ×,÷]

40 ÷ 10 = 4

8. [Large Number ×,÷]

$$3\overline{)90} = 30$$

9. [Decimals]

Write as a decimal: one tenth.

0.1

10. [Fractions]

Name the fraction shown by the arrow on the number line.

$\frac{1}{6}$

11. [Decimals / Fractions / Percentages]

Which of these fractions equals 0.3?

A) $\frac{1}{3}$ B) $\frac{3}{10}$ C) $\frac{3}{3}$

B

12. [Place Value]

What is the value of the digit 7 in the number 473?

70

13. [Operations]

9 × 2 = 2 × 9

14. [Exploring Numbers]

Write the number 78 in words.

seventy-eight

15. [Number Patterns / Equations]

5 + 12 = 17

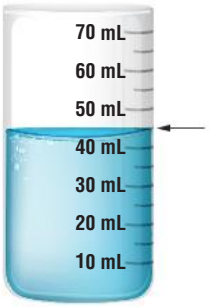
16. [Units of Measurement]

Convert to centimetres:

1 metre = **100 cm**

17. [Measuring]

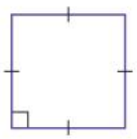
How much water is in the measuring cylinder?



45 mL

18. [Perimeter / Area]

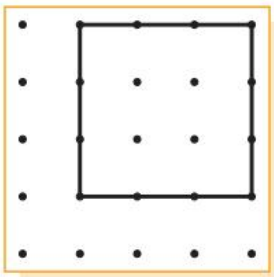
Use a ruler to measure the length of one side of the square in millimetres.



15 mm

19. [Shapes]

Draw a square on the dotted grid. Make sure that all the vertices are on a dot.



20. [Location / Transformation]

Whose locker is located at C1?

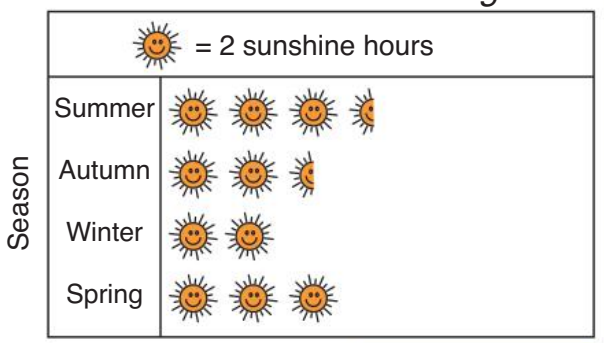
	A	B	C	D	E	F
4	McLeod	Hart	Bunton	Wade	Silvagni	Jones
3	Coleman	Hird	Lockett	Jesaulenko	Price	Buckley
2	Neitz	Voss	Reynolds	Flower	Ablett	Shaw
1	Quinlan	Skilton	Bartlett	Ricciuto	Doull	Coventry

Bartlett

21. [Statistics / Probability]

On average, how many hours of sunshine are there on a summer's day in Wellington?

Sunshine hours in Wellington



7 hours

22. [Problem Solving 1] *

What is the sum of the numbers on the three hidden faces of the die?

11

23. [Problem Solving 2] *

A snail attempts to climb a 4 metre high wall. In one hour it climbs up 2 metres. The next hour it rests and slips back 1 metre. How long does it take to reach the top of the wall if it keeps climbing and slipping in this way?

5 hours

24. [Problem Solving 3]

Fill in the missing numbers to produce correct equations in every row and column.

5	−	2	=	3
+		−		+
3	+	1	=	4
=		=		=
8	−	1	=	7

MATHS MATE

Term 1 - Sheet 6

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

	4	8	5	7	1	6	2	3	10	9
× 1	4	8	5	7	1	6	2	3	10	9

4. [÷ Whole Numbers to 10]

	16	64	24	48	80	72	56	32	40	8
÷ 8	2	8	3	6	10	9	7	4	5	1

MULTIPLICATION SHORTCUTS

Multiplications can sometimes be made a lot easier by grouping the terms conveniently before multiplying:

$3 \times 5 \times 4 \times 2 =$
$= (5 \times 2) \times (3 \times 4)$
$= 10 \times 12 = 120$

$4 \times 7 \times 25 \times 3 =$
$= (4 \times 25) \times (7 \times 3)$
$= 100 \times 21 = 2100$

Try for yourself:
a) $2 \times 3 \times 5 \times 8$
b) $11 \times 50 \times 2 \times 3$

Answer: a) 240, b) 3300

5. [Large Number +]

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

96

6. [Large Number ⊖]

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

425

7. [Powers of 10 ×,÷]

$270 \div 10 =$

27

8. [Large Number ×,÷]

$$2\overline{)\,2\,6}$$

13

9. [Decimals]

Write as a decimal:
four and nine tenths.

4.9

10. [Fractions]

Name the fraction shown by the arrow on the number line.

$\frac{3}{5}$

11. [Decimals / Fractions / Percentages]

Which of these decimal numbers equals $\frac{5}{10}$?

A) 1.5 B) 1.05 C) 0.5

C

12. [Place Value]

What is the value of the digit 2 in the number 6281?

200

13. [Operations]

$8 \div 2 = 2 \div 8$
True or false?

false

14. [Exploring Numbers]

Write the number 214 in words.

two hundred and fourteen

15. [Number Patterns / Equations]

$5 + 8 = 13$

16. [Units of Measurement]

Convert to kilograms:

1000 g = 1 kg

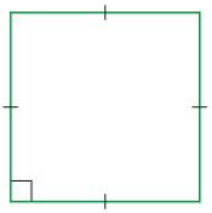
17. [Measuring]

At what speed is the car travelling?

92 km/h

18. [Perimeter / Area]

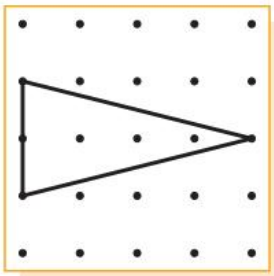
Use a ruler to measure the length of one side of the square in centimetres.



2.5 cm

19. [Shapes]

Draw a triangle with two equal sides on the dotted grid. Make sure that all the vertices are on a dot.



20. [Location / Transformation]

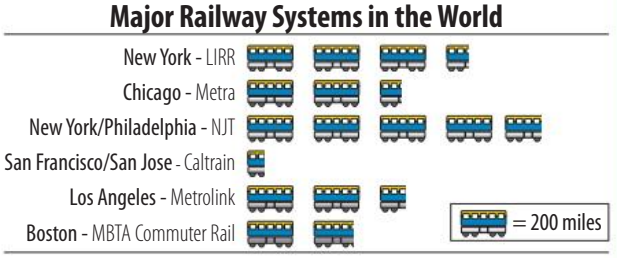
The sneaker is located at C2. Where is the gumboot located on the grid?

B1

21. [Statistics / Probability]

The length of the Los Angeles Metrolink railway system is closest to:

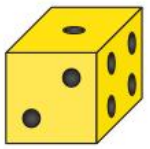
A) 250 miles
B) 500 miles
C) 600 miles



B

22. [Problem Solving 1] *

What is the sum of the numbers on the three hidden faces of the die?



14

23. [Problem Solving 2] *

Mr. Bean tries to push his car up an 800 m slope to a petrol station. In one hour he pushes the car 200 m up the hill. The next hour he rests and the car rolls back 100 m. How long does it take to reach the top of the hill if he keeps pushing and resting in this way?

13 hours

24. [Problem Solving 3]

Fill in the missing numbers to produce correct equations in every row and column.

8	÷	2	=	4
×		÷		×
2	×	2	=	4
=		=		=
16	÷	1	=	16

MATHS MATE

Term 1 - Sheet 7

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

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

MULTIPLICATION SHORTCUTS

Because 99 = 100 – 1, to multiply by 99 just multiply by 100 then subtract the original number.

$$58 \times 99$$
$$= \underset{(58 \times 100)}{5800} - \underset{(58 \times 1)}{58}$$
$$= 5742$$

Try these without using a calculator:

a) 32×99
b) 6×99

Answer: a) 3168, b) 594

5. [Large Number +]

$$\begin{array}{r} 132 \\ 205 \\ +\,362 \\ \hline \end{array}$$

699

6. [Large Number –]

$$\begin{array}{r} 986 \\ -\,521 \\ \hline \end{array}$$

465

7. [Powers of 10 ×,÷]

$980 \div 10 =$

98

8. [Large Number ×,÷]

$$4\overline{)84} = 21$$

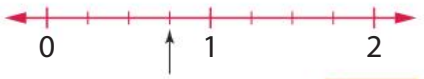
9. [Decimals]

Write as a decimal: five hundredths.

0.05

10. [Fractions]

Name the fraction shown by the arrow on the number line.



$\frac{3}{4}$

11. [Decimals / Fractions / Percentages]

Write $\frac{53}{100}$ as a decimal.

0.53

12. [Place Value]

In which number does the digit 6 have a smaller value?

A) 4364
B) 1621

A

13. [Operations]

5 $\times 4 = 4 \times 5$

14. [Exploring Numbers]

Write the number 609 in words.

six hundred and nine

15. [Number Patterns / Equations]

14 + 11 = 25

16. [Units of Measurement]

Convert to millilitres:

1 litre = **1000 mL**

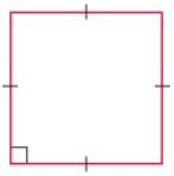
17. [Measuring]

What is the temperature shown by the arrow on the scale?

16 °C

18. [Perimeter / Area]

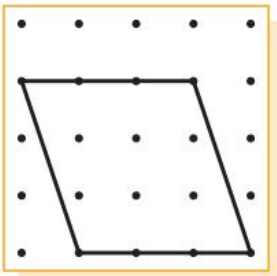
Using a ruler, find the perimeter of the square in centimetres.



8 cm

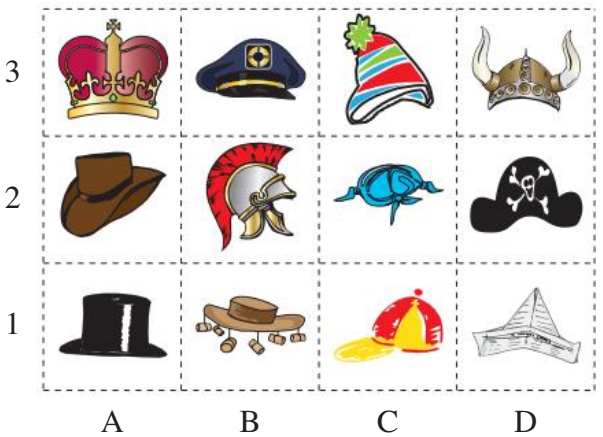
19. [Shapes]

Draw a parallelogram on the dotted grid. Make sure that all the vertices are on a dot.



20. [Location / Transformation]

What is the grid reference of the cowboy hat?

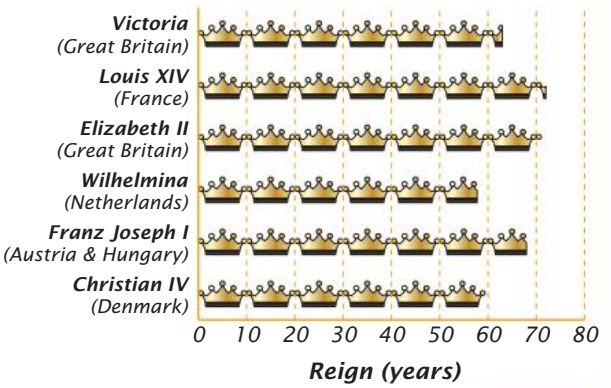


A2

21. [Statistics / Probability]

How many of the European monarchs shown below reigned for more than 60 years?

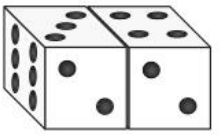
European Monarchs (kings and queens)



4

22. [Problem Solving 1] *

What is the sum of the numbers on the seven hidden faces of the dice?



25

23. [Problem Solving 2] *

An indoor cricket team makes 7 runs in one over but loses 5 runs in the next. If the team continues scoring in this way, how many overs will they take to reach 15 runs?

9

24. [Problem Solving 3]

Fill in the missing numbers to produce correct equations in every row and column.

80	+	10	=	90
−		+		−
50	−	40	=	10
=		=		=
30	+	50	=	80

MATHS MATE

Term 1 - Sheet 8

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

	9	6	2	8	7	3	4	10	1	5
× 3	27	18	6	24	21	9	12	30	3	15

4. [÷ Whole Numbers to 10]

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

SUBTRACTION SHORTCUTS

To subtract 9 from a number, take 10 first and then add 1.

example: 27 – 9
= 27 – 10 add 1
= 17 add 1
The answer is 18.

See if you can do these:

a) 38 – 9
b) 157 – 9

How would you subtract 99?

Answer: a) 29, b) 148
Take 100, then add 1.

5. [Large Number +]

$$\begin{array}{r} 2301 \\ 2224 \\ +\,4363 \\ \hline \end{array}$$

8888

6. [Large Number –]

$$\begin{array}{r} 5423 \\ -\,3101 \\ \hline \end{array}$$

2322

7. [Powers of 10 ×,÷]

330 ÷ 10 =

33

8. [Large Number ×,÷]

$$3\overline{)96} = 32$$

9. [Decimals]

Write as a decimal:
twenty-three hundredths.
[Or: Two tenths, three hundredths.]

0.23

10. [Fractions]

Name the fraction shown by the arrow on the number line.

$\frac{2}{3}$

11. [Decimals / Fractions / Percentages]

Write $\frac{263}{1000}$ as a decimal.

0.263

12. [Place Value]

In which number does the digit 4 have a greater value?

A) 84 561
B) 97 423

A

13. [Operations]

9 × 6 = 6 × 9

14. [Exploring Numbers]

Write the number 930 in words.

nine hundred and thirty

15. [Number Patterns / Equations]

16 + 13 = 29

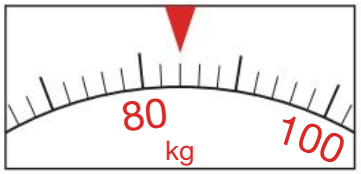
16. [Units of Measurement]

Convert to millimetres:

1 centimetre = 10 mm

17. [Measuring]

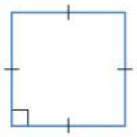
How many kilograms are shown by the arrow on the scale?



84 kg

18. [Perimeter / Area]

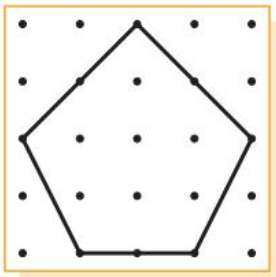
Using a ruler, find the perimeter of the square in centimetres.



6 cm

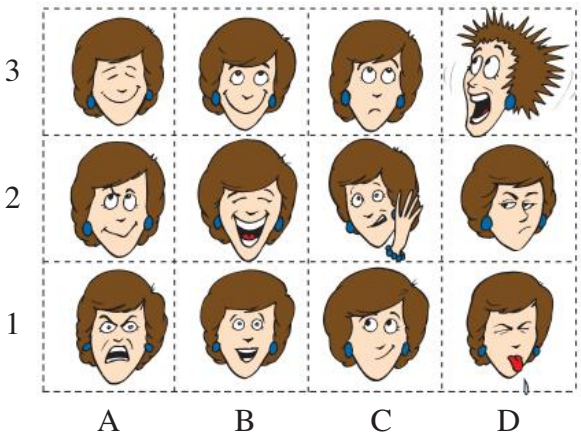
19. [Shapes]

Draw a pentagon on the dotted grid. Make sure that all the vertices are on a dot.



20. [Location / Transformation]

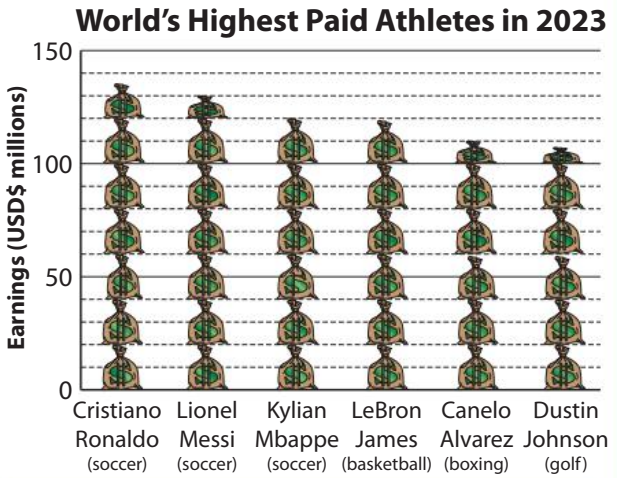
Where is the most frightened person located on the grid?



D3

21. [Statistics / Probability]

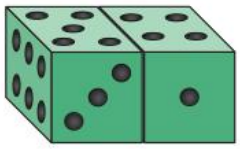
Name the sportsman with earnings closest to $130 million in 2023.



Lionel Messi

22. [Problem Solving 1] *

What is the sum of the numbers on the seven hidden faces of the dice?



23

23. [Problem Solving 2] *

A gambler begins with $21. In the first minute he loses $5. In the next minute he wins $3. How long does he take to lose his $21 if he continues losing and winning in this way?

17 min

24. [Problem Solving 3]

Fill in the missing numbers to produce correct equations in every row and column.

4	×	8	=	32
×		×		+
8	×	2	=	16
=		=		=
32	+	16	=	48

MATHS MATE

Term 2 - Sheet 1

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	12	16	9	17	14	13	10	15	18	11
– 6	6	10	3	11	8	7	4	9	12	5

3. [× Whole Numbers to 10]

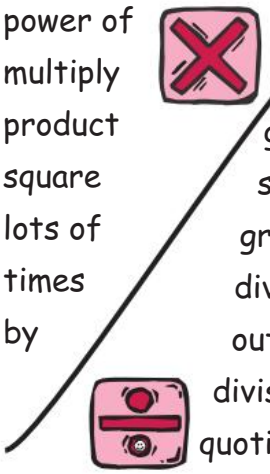
	9	7	3	6	1	8	4	5	2	10
× 8	72	56	24	48	8	64	32	40	16	80

4. [÷ Whole Numbers to 10]

	5	2	9	10	1	6	7	4	8	3
÷ 1	5	2	9	10	1	6	7	4	8	3

IN OTHER WORDS!

multiplication
(a bracket)
power of
multiply
product
square
lots of
times
by



give
split
group
divide
out of
division
quotient
how many
(the fraction line)

5. [Large Number +]

$$\begin{array}{r} 226 \\ +\,435 \\ \hline 661 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 70 \\ -\,\,5 \\ \hline 65 \end{array}$$

7. [Powers of 10 ×,÷]

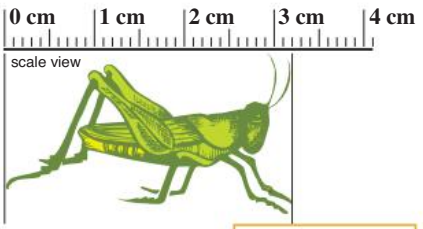
$$\begin{array}{r} 49 \\ \times 100 \\ \hline 4900 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 13 \\ \times\,\,6 \\ \hline 78 \end{array}$$

9. [Decimals]

What is the length of the grasshopper?



3.2 cm

10. [Fractions]

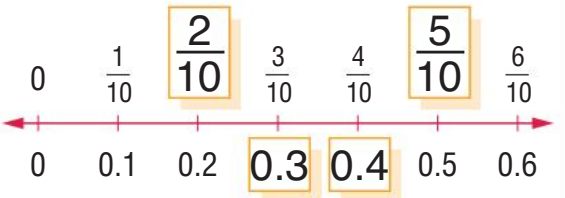
Which of the following fractions equal 1?

A) $\frac{1}{3}$ B) $\frac{2}{2}$ C) $\frac{3}{3}$ D) $\frac{2}{3}$

B and C

11. [Decimals / Fractions / Percentages]

Complete the missing fractions and decimals on this number line.



12. [Place Value]

Which number is smaller?

5454 or 5455

5454

13. [Operations]

$9 + 0 = 0$

True or false?

false

14. [Exploring Numbers]

Write in numerals:

seventy thousand, eight hundred

70 800

15. [Number Patterns / Equations]

19, 17, 15, 13, 11, 9 , 7

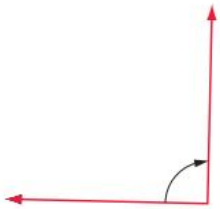
16. [Units of Measurement]

Convert to metres:

800 cm = 8 m

17. [Measuring]

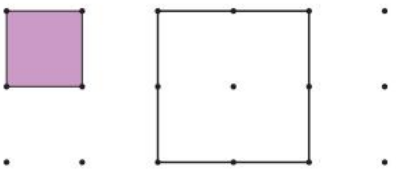
Is the angle "less than", "equal to" or "greater than" a right angle?



equal to

18. [Perimeter / Area]

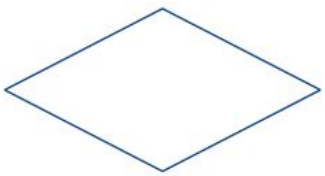
How many small squares are needed to cover the larger square?



4

19. [Shapes]

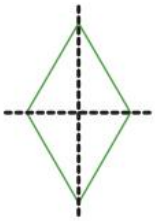
How many interior angles does a rhombus have?



4

20. [Location / Transformation]

Draw the lines of symmetry through the rhombus. How many lines of symmetry does the rhombus have?



2

21. [Statistics / Probability]

Based on the values in this table, calculate the number of calories of energy in 200 g of cherries.

Composition of Fruit (per 100 grams)

FRUIT	PROTEIN (grams)	FIBRE (grams)	ENERGY VALUE (calories)
Apricots	5	24	182
Bananas	1	2	85
Cherries	1	1	70
Grapes	1	1	69
Watermelon	trace	1	21
Oranges	1	2	49
Tomatoes	1	1	14

140 calories

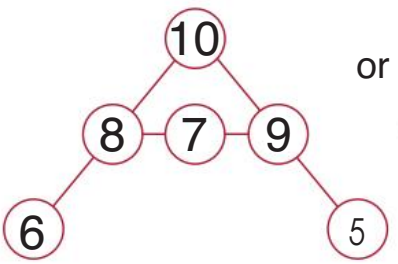
22. [Problem Solving 1] *

How many numbers between 1 and 60 are divisible by 11?

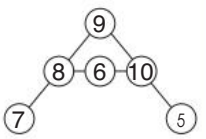
5

23. [Problem Solving 2]

Place the numbers 6, 7, 8, 9 and 10 in the circles so that the sum on every line is 24.



or



24. [Problem Solving 3] *

Eight school friends gave each other Valentine's Day cards. How many cards were exchanged?

56

MATHS MATE

Term 2 - Sheet 2

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

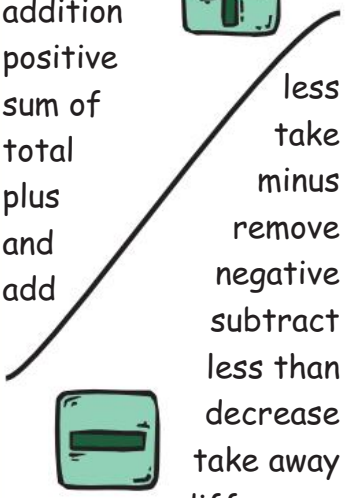
	4	1	3	5	7	2	8	9	6	10
× 5	20	5	15	25	35	10	40	45	30	50

4. [÷ Whole Numbers to 10]

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

IN OTHER WORDS!

altogether
increase
addition
positive
sum of
total
plus
and
add



less
take
minus
remove
negative
subtract
less than
decrease
take away
difference
subtraction

5. [Large Number +]

$$\begin{array}{r} 53 \\ 13 \\ +\ 27 \\ \hline 93 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 40 \\ -\ 4 \\ \hline 36 \end{array}$$

7. [Powers of 10 ×,÷]

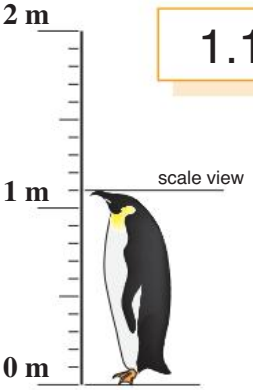
$$\begin{array}{r} 32 \\ \times 100 \\ \hline 3200 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 17 \\ \times\ 5 \\ \hline 85 \end{array}$$

9. [Decimals]

What is the height of the penguin?



1.1 m

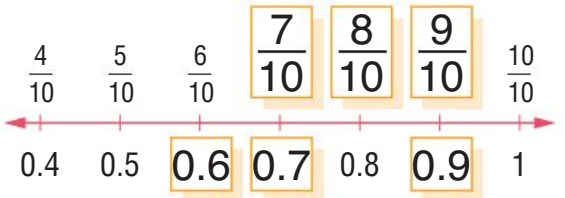
10. [Fractions]

Write a fraction equal to 1 that has a denominator of 6.

$\frac{6}{6}$

11. [Decimals / Fractions / Percentages]

Complete the missing fractions and decimals on this number line.



12. [Place Value]

$43\,443 < 43\,344$

True or false?

false

13. [Operations]

$7 \times 1 = 7$

True or false?

true

14. [Exploring Numbers]

Write in numerals:

nine hundred thousand

900 000

15. [Number Patterns / Equations]

27, 23, 19, 15, 11, 7 , 3

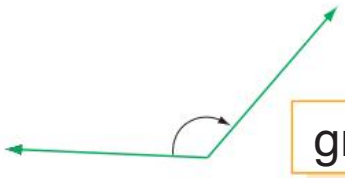
16. [Units of Measurement]

Convert to metres:

6 km = 6000 m

17. [Measuring]

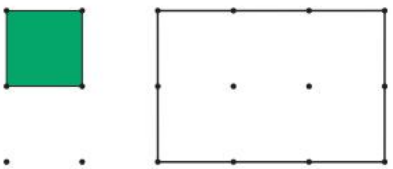
Is the angle "less than", "equal to" or "greater than" a right angle?



greater than

18. [Perimeter / Area]

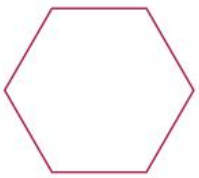
How many small squares are needed to cover the larger rectangle?



6

19. [Shapes]

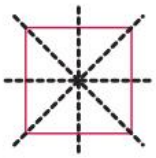
How many sides does a hexagon have?



6

20. [Location / Transformation]

Draw the lines of symmetry through the square. How many lines of symmetry does the square have?



4

21. [Statistics / Probability]

Calculate the total number of dangerous bony fish and jellyfish species.

Potentially dangerous marine animals
(in Australian waters)

Species	Number of species
Starfish	3
Jellyfish	4
Octopuses	2
Sharks (& relatives)	7
Bony fish	23
Sea snakes	32

27

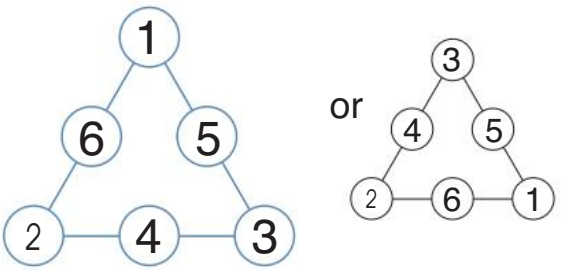
22. [Problem Solving 1] *

How many numbers between 1 and 60 are divisible by 9?

6

23. [Problem Solving 2]

Fill in the digits 1, 3, 4, 5 and 6 so that the sum on every side of the triangle is 9.



24. [Problem Solving 3] *

Our school colours are blue, green, white and yellow. Each class in the school has a banner painted in two of the four school colours - blue and white, blue and green and so on. If every possible two colour combination has been used, how many classes are there in the school?

6

MATHS MATE

Term 2 - Sheet 3

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	16	13	14	18	15	20	19	12	11	17
– 8	8	5	6	10	7	12	11	4	3	9

3. [× Whole Numbers to 10]

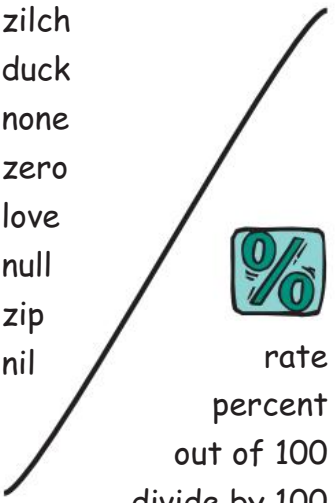
	10	7	2	5	4	6	1	8	3	9
× 4	40	28	8	20	16	24	4	32	12	36

4. [÷ Whole Numbers to 10]

	9	18	24	12	3	21	15	30	6	27
÷ 3	3	6	8	4	1	7	5	10	2	9

IN OTHER WORDS!

nothing
nought
cipher
zilch
duck
none
zero
love
null
zip
nil



rate
percent
out of 100
divide by 100

5. [Large Number +]

$$\begin{array}{r} 339 \\ +\ 214 \\ \hline 553 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 50 \\ -\ \ 8 \\ \hline 42 \end{array}$$

7. [Powers of 10 ×,÷]

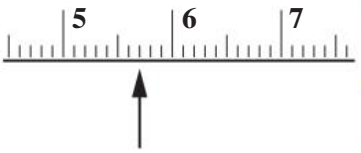
$$\begin{array}{r} 653 \\ \times\ 100 \\ \hline 65300 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 44 \\ \times\ \ 3 \\ \hline 132 \end{array}$$

9. [Decimals]

Show with an arrow the number 5.7 on the scale.



10. [Fractions]

Two thirds of the students are girls. What fraction of the students are boys?

$\frac{1}{3}$

11. [Decimals / Fractions / Percentages]

Name the fraction shown by the arrow on this number line.

$\frac{1}{4}$

12. [Place Value]

Place in order from largest to smallest:

157, 150, 107, 155, 175

175, 157, 155, 150, 107

13. [Operations]

5 + 0 = 5

14. [Exploring Numbers]

Write 8600 in words.

eight thousand, six hundred

15. [Number Patterns / Equations]

37, 31, 25, 19, 13, 7 , 1

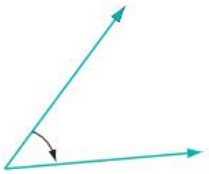
16. [Units of Measurement]

Convert to millimetres:

5 m = 5000 mm

17. [Measuring]

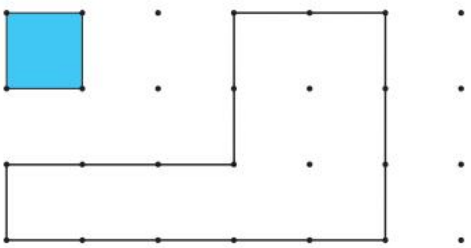
Is the angle "less than", "equal to" or "greater than" a right angle?



less than

18. [Perimeter / Area]

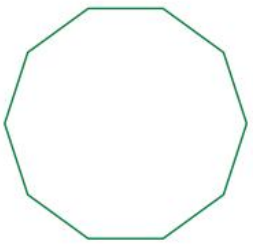
How many small squares are needed to cover this shape?



9

19. [Shapes]

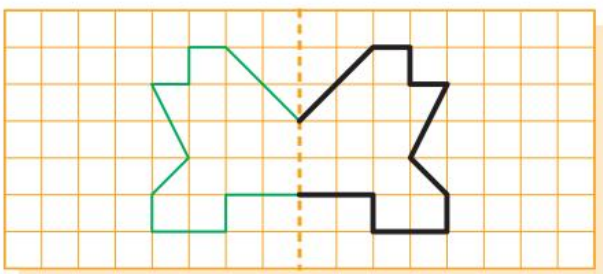
How many sides does a decagon have?



10

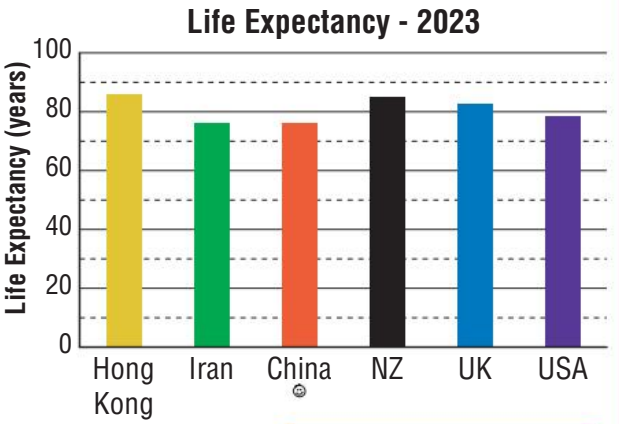
20. [Location / Transformation]

Redraw this shape after reflecting it in the dotted line.



21. [Statistics / Probability]

Which of the countries shown below had the highest life expectancy in 2023?



Hong Kong

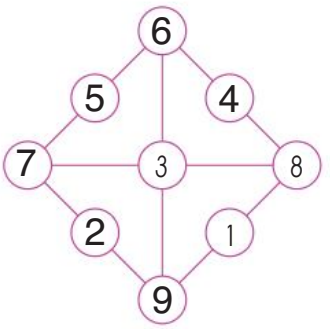
22. [Problem Solving 1] *

How many numbers between 17 and 61 are divisible by 8?

5

23. [Problem Solving 2]

Fill in the digits 2, 4, 5, 6, 7 and 9 so that the sum on each of the six straight lines is 18.



24. [Problem Solving 3] *

At our camp we were told to make as many different sandwiches as possible. We had cheese, tomato, lettuce and ham available so we made sandwiches with no filling, some with just ham, others with ham and cheese, others with ham, cheese and lettuce and so on. How many different sandwiches could we make?

16

MATHS MATE

Term 2 - Sheet 4

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	3	7	4	1	2	6	10	9	8	5
+ 8	11	15	12	9	10	14	18	17	16	13

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

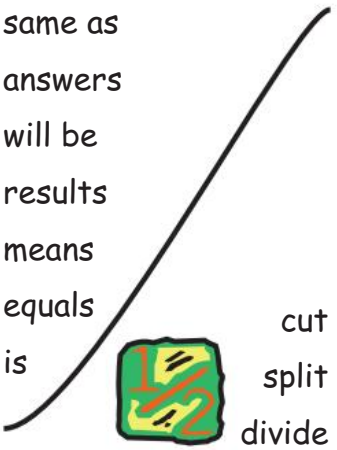
	3	7	6	10	2	4	9	5	8	1
× 3	9	21	18	30	6	12	27	15	24	3

4. [÷ Whole Numbers to 10]

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

IN OTHER WORDS!

represents
whole lot
value of
same as
answers
will be
results
means
equals
is



cut
split
divide
fraction

5. [Large Number +]

$$\begin{array}{r} 257 \\ +\,528 \\ \hline 785 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 60 \\ -\,\,6 \\ \hline 54 \end{array}$$

7. [Powers of 10 ×,÷]

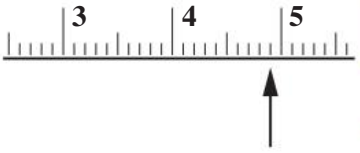
$$\begin{array}{r} 708 \\ \times\,100 \\ \hline 70800 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 38 \\ \times\,\,7 \\ \hline 266 \end{array}$$

9. [Decimals]

Show with an arrow the number 4.9 on the scale.



10. [Fractions]

If a portion of three eighths of the cake was eaten, what fraction of the cake remains? $\frac{5}{8}$

11. [Decimals / Fractions / Percentages]

Name the fraction shown by the arrow on this number line.

$\frac{3}{5}$

12. [Place Value]

Place in order from smallest to largest:

2131, 2331, 2313, 2311

2131, 2311, 2313, 2331

13. [Operations]

$5 \times \boxed{1} = 5$

14. [Exploring Numbers]

Write 2009 in words.

two thousand and nine

15. [Number Patterns / Equations]

50, 42, 34, 26, 18, 10 , 2

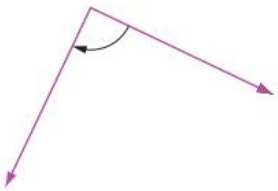
16. [Units of Measurement]

Convert to centimetres:

30 mm = 3 cm

17. [Measuring]

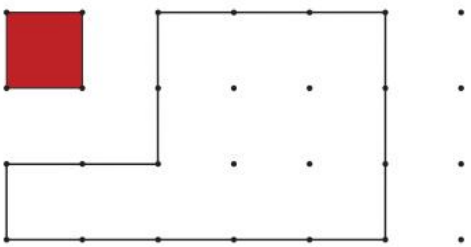
Is the angle "less than", "equal to" or "greater than" a right angle?



equal to

18. [Perimeter / Area]

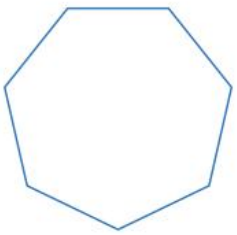
How many small squares are needed to cover this shape?



11

19. [Shapes]

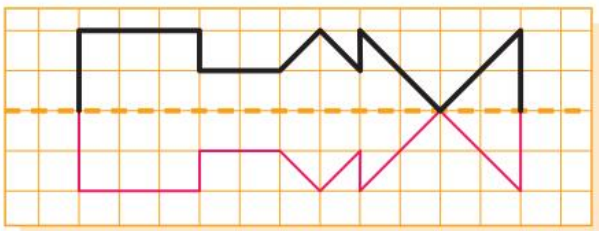
How many interior angles does a heptagon have?



7

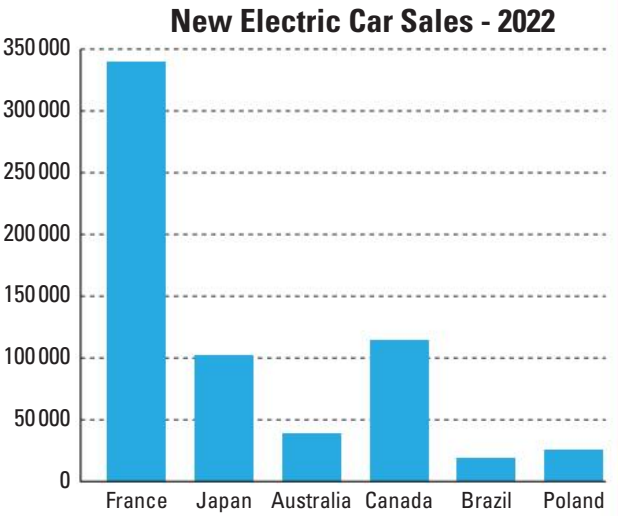
20. [Location / Transformation]

Redraw this shape after reflecting it in the dotted line.



21. [Statistics / Probability]

How many new electric cars were sold in France in 2022? Round the answer to the nearest hundred thousand.



300 000

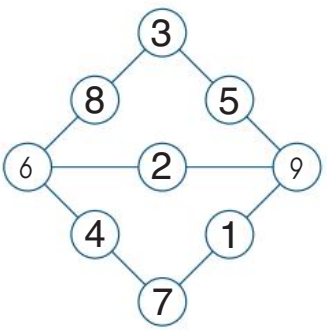
22. [Problem Solving 1] *

How many numbers between 20 and 31 are divisible by 3?

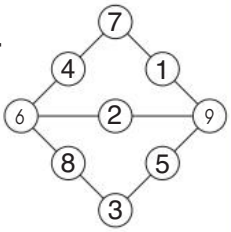
4

23. [Problem Solving 2]

Fill in the digits 1, 2, 3, 4, 5, 7, 8 so that the sum on each of the five straight lines is 17.



or



24. [Problem Solving 3] *

Each person in our class was asked to select two different days of the week for farm duty. Students could choose Saturday and Monday or Thursday and Friday and so on. How many different combinations are possible?

21

MATHS MATE

Term 2 - Sheet 5

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	5	3	2	4	10	1	8	9	6	7
+ 8	13	11	10	12	18	9	16	17	14	15

2. [– Whole Numbers to 10]

	11	12	19	13	17	14	16	18	10	15
– 2	9	10	17	11	15	12	14	16	8	13

3. [× Whole Numbers to 10]

	7	1	4	2	9	8	5	6	3	10
× 10	70	10	40	20	90	80	50	60	30	100

4. [÷ Whole Numbers to 10]

	9	72	81	27	63	54	45	90	36	18
÷ 9	1	8	9	3	7	6	5	10	4	2

MULTIPLYING BY 10

For whole numbers just add a zero at the end of the number to multiply by 10. This will change: the units to tens, tens to hundreds, hundreds to thousands, and so on.

Try the following multiplications:

a) 75×10
b) 101×10

How would you multiply whole numbers by 100?

Answer: a) 750, b) 1010
Add two zeros at the end of the number.

5. [Large Number +]

$$\begin{array}{r} 367 \\ +\,315 \\ \hline 682 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 63 \\ -\,15 \\ \hline 48 \end{array}$$

7. [Powers of 10 ×,÷]

$800 \div 100 =$ **8**

8. [Large Number ×,÷]

$$5\overline{)500} = 100$$

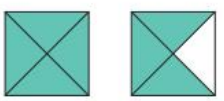
9. [Decimals]

Write these cents in dollars:

500¢ = **$ 5.00**

10. [Fractions]

Name the mixed number shown by the shaded squares.



$1\frac{3}{4}$

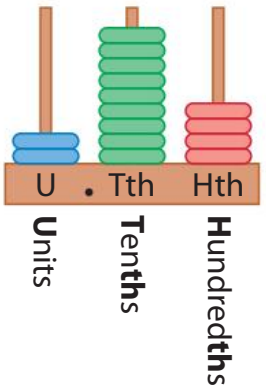
11. [Decimals / Fractions / Percentages]

Write 0.37 as a fraction.

$\frac{37}{100}$

12. [Place Value]

Write the decimal number.



2.94

13. [Operations] *

$17 - 6 + 2 =$ **13**

14. [Exploring Numbers]

What is the largest even number less than 16? **14**

15. [Number Patterns / Equations]

14 $- 9 = 5$

16. [Units of Measurement]

Convert to grams:

7 kg = **7000 g**

17. [Measuring]

What time in the morning is shown on this clock?

i) 12-hour time format (AM or PM):

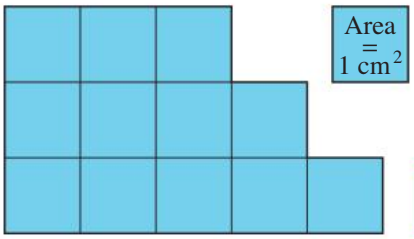
11 : 45 AM

ii) 24-hour time format:

11 : 45

18. [Perimeter / Area]

Find the area of this shape.



12 cm²

19. [Shapes]

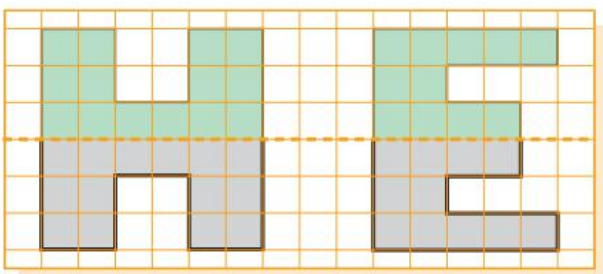
This rectangle has:

A) all sides of equal length
B) one acute angle
C) no line of symmetry
D) parallel sides

D

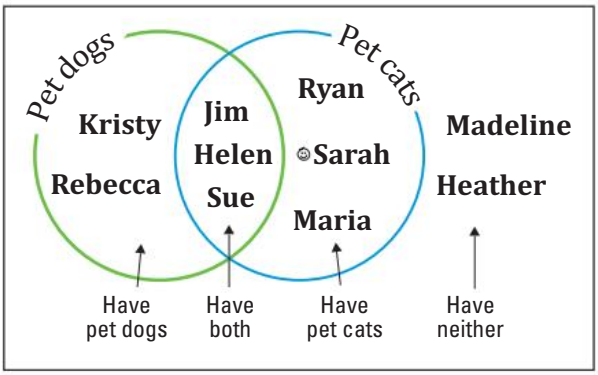
20. [Location / Transformation]

Draw the reflection of these shapes in the dotted line.



21. [Statistics / Probability]

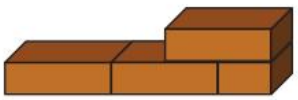
Does Helen have a dog, a cat or both?



both

22. [Problem Solving 1] *

What is the weight of seven bricks if three and a half bricks weigh seven kilograms?



14 kg

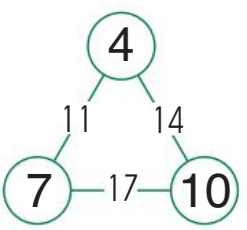
23. [Problem Solving 2] *

Mike and Anna have 20 stamps altogether. Mike has 4 more stamps than Anna. How many stamps does Anna have?

8

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

Term 2 - Sheet 6

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

	4	7	9	1	3	6	10	8	5	2
× 1	4	7	9	1	3	6	10	8	5	2

4. [÷ Whole Numbers to 10]

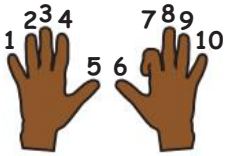
	9	30	6	21	15	24	12	3	27	18
÷ 3	3	10	2	7	5	8	4	1	9	6

MULTIPLYING BY 9

This rule applies for multiplication of any number from 1 to 9, by 9.

For 7 × 9, you bend the seventh finger.
To the left of the bent finger there are 6 fingers and to the right, 3 fingers.

So the result of 7 × 9 is 63.



5. [Large Number +]

$$\begin{array}{r} 576 \\ +\ 316 \\ \hline 892 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 54 \\ -\ 27 \\ \hline 27 \end{array}$$

7. [Powers of 10 ×,÷]

9400 ÷ 100 = 94

8. [Large Number ×,÷]

2000

3) 6000

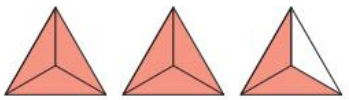
9. [Decimals]

Write these cents in dollars:

36¢ = $ 0.36

10. [Fractions]

Name the mixed number represented by the shaded triangles.



$2\frac{2}{3}$

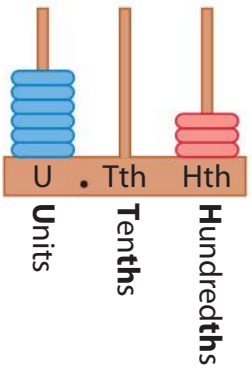
11. [Decimals / Fractions / Percentages]

Write 0.7 as a fraction.

$\frac{7}{10}$

12. [Place Value]

Write the decimal number.



6.03

13. [Operations] *

13 – 5 – 3 = 5

14. [Exploring Numbers]

Write the odd numbers between 12 and 20 in order from largest to smallest.

19, 17, 15, 13

15. [Number Patterns / Equations]

16 – 8 = 8

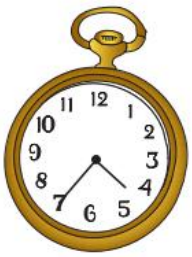
16. [Units of Measurement]

Convert to tonnes:

4000 kg = **4 t**

17. [Measuring]

What time in the afternoon is shown on this watch?



i) 12-hour time format (AM or PM):

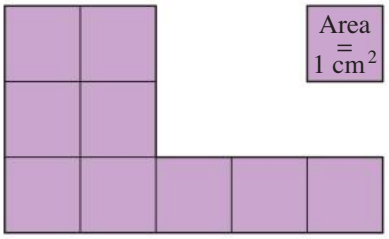
4 : 35 PM

ii) 24-hour time format:

16 : 35

18. [Perimeter / Area]

Find the area of this shape.



9 cm²

19. [Shapes]

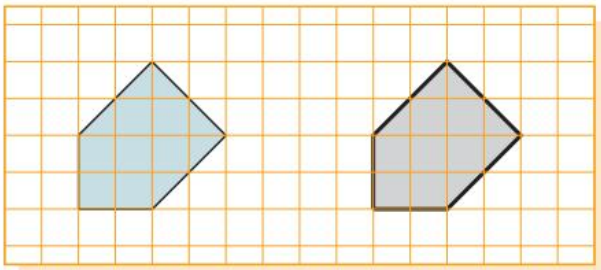
This triangle has:

A) one line of symmetry
B) two parallel sides
C) two perpendicular sides
D) one obtuse angle

C

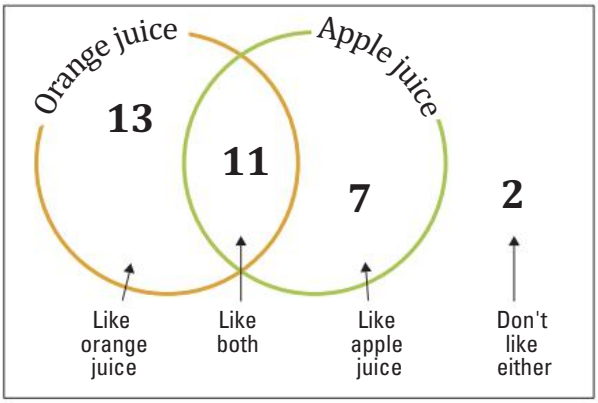
20. [Location / Transformation]

Redraw this shape after translating it 8 units to the right.



21. [Statistics / Probability]

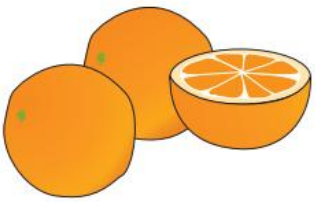
How many of the children surveyed like apple juice but not orange juice?



7

22. [Problem Solving 1] *

What is the weight of ten oranges if two and a half oranges of the same size weigh five hundred grams?



2 kg

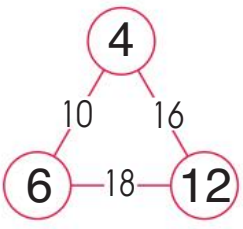
23. [Problem Solving 2] *

In a class of 22 students, there are 4 more girls than boys. How many girls are there in the class?

13

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

Term 2 - Sheet 7

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	12	17	14	11	18	10	9	16	15	13
– 7	5	10	7	4	11	3	2	9	8	6

3. [× Whole Numbers to 10]

	2	6	10	1	3	9	7	4	5	8
× 9	18	54	90	9	27	81	63	36	45	72

4. [÷ Whole Numbers to 10]

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

MULTIPLYING BY 5

Here is an easy way to multiply by 5:

Halve the number then multiply your answer by 10.

e.g. 1) $288 \times 5 = 1440$

$288 \div 2 = 144$
$144 \times 10 = 1440$

e.g. 2) $46 \times 5 = 230$

$46 \div 2 = 23$
$23 \times 10 = 230$

5. [Large Number +]

$$\begin{array}{r} 4119 \\ +\ 3135 \\ \hline 7254 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 83 \\ -\ 49 \\ \hline 34 \end{array}$$

7. [Powers of 10 ×,÷]

$2200 \div 100 =$ **22**

8. [Large Number ×,÷]

121

$4\overline{)484}$

9. [Decimals]

Write these cents in dollars:

225¢ = **$ 2.25**

10. [Fractions]

Name the mixed number shown by the arrow on the number line.

$3\frac{1}{4}$

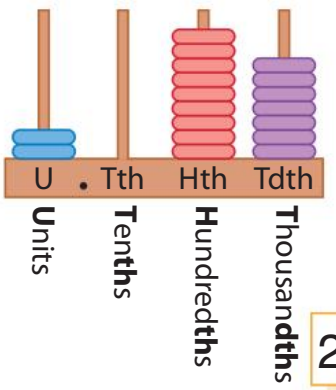
11. [Decimals / Fractions / Percentages]

Write 0.01 as a fraction.

$\frac{1}{100}$

12. [Place Value]

Write the decimal number.



2.097

13. [Operations] *

$2 \times 3 \times 3 =$ **18**

14. [Exploring Numbers]

Using the digits 1, 2, 4 and 7 write an even number greater than 7400.

7412

15. [Number Patterns / Equations]

29 – **13** = 16

16. [Units of Measurement]

Convert to kilograms:

3 t = **3000 kg**

17. [Measuring]

What time in the morning is shown on this clock?

i) 12-hour time format (AM or PM):

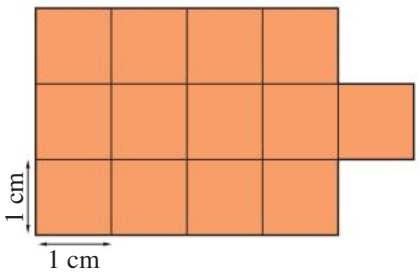
6 : 15 AM

ii) 24-hour time format:

06 : 15

18. [Perimeter / Area]

Find the area of this shape.



13 cm²

19. [Shapes]

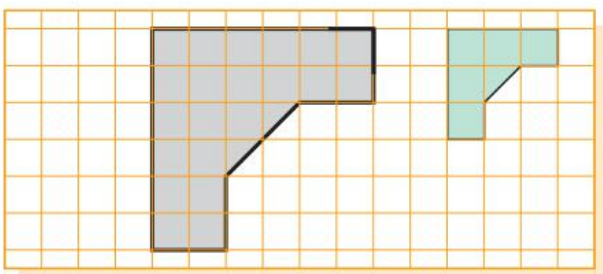
This parallelogram has:

A) two acute angles
B) one line of symmetry
C) two perpendicular sides
D) all sides of equal length

A

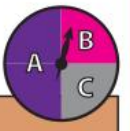
20. [Location / Transformation]

Redraw this shape after doubling its size.



21. [Statistics / Probability]

A coin is tossed and a spinner is spun. Complete the table to find the total number of possible outcomes.

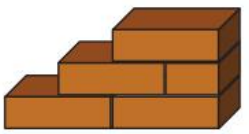


Coin	Spinner: A	Spinner: B	Spinner: C
Heads	*Heads, A*	Heads,B	Heads,C
Tails	Tails,A	Tails,B	Tails,C

6

22. [Problem Solving 1] *

What is the weight of two bricks if four and a half bricks weigh 9 kg?



4 kg

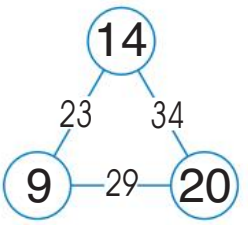
23. [Problem Solving 2] *

Liam and his younger sister Rachael were born on the same day of the year, but 5 years apart. There was a total of 25 candles on their cakes last birthday. How old is Rachael?

10

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

Term 2 - Sheet 8

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	16	11	13	10	17	18	9	14	15	12
– 8	8	3	5	2	9	10	1	6	7	4

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

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

DIVIDING BY 10

For multiples of 10 just remove a zero at the end of the number to divide by 10. This will change the thousands to hundreds, hundreds to tens and tens to units.

Try the following divisions:

a) 750 ÷ 10
b) 6700 ÷ 10

How would you divide numbers like 23000 by 100?

Answer: a) 75, b) 670
Remove two zeros from the end of the number to give 230.

5. [Large Number +]

$$\begin{array}{r} 38 \\ 28 \\ +\ 21 \\ \hline \end{array}$$

87

6. [Large Number –]

$$\begin{array}{r} 972 \\ -\ 406 \\ \hline \end{array}$$

566

7. [Powers of 10 ×,÷]

31 500 ÷ 100 =

315

8. [Large Number ×,÷]

$$2\overline{)6842}$$

3421

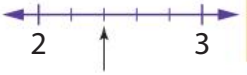
9. [Decimals]

Write these cents in dollars:

80¢ = $ 0.80

10. [Fractions]

Name the mixed number shown by the arrow on the number line.



$2\frac{2}{5}$

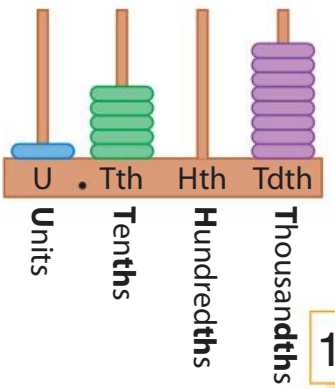
11. [Decimals / Fractions / Percentages]

Write 0.29 as a fraction.

$\frac{29}{100}$

12. [Place Value]

Write the decimal number.



1.508

13. [Operations] *

4 × 4 ÷ 2 =

8

14. [Exploring Numbers]

Using the digits 5, 6, 7 and 8 write an odd number between 5650 and 5700.

5687

15. [Number Patterns / Equations]

23 – 11 = 12

16. [Units of Measurement]

Convert to kilograms:

15 000 g = **15 kg**

17. [Measuring]

What time in the afternoon is shown on this clock?

i) 12-hour time format (AM or PM):

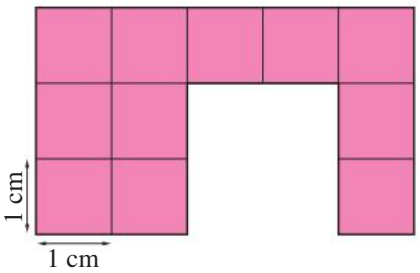
1 : 45 PM

ii) 24-hour time format:

13 : 45

18. [Perimeter / Area]

Find the area of this shape.



11 cm²

19. [Shapes]

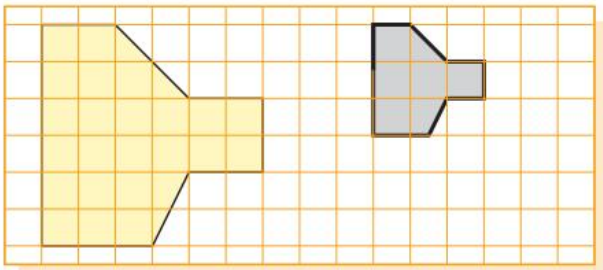
This triangle has:

A) two parallel sides
B) one right angle
C) one line of symmetry
D) all sides of equal length

C

20. [Location / Transformation]

Redraw this shape after halving its size.



21. [Statistics / Probability]

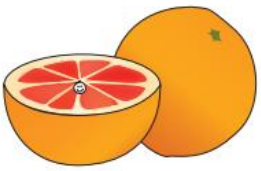
A coin is tossed and a die is rolled. Complete the table to find the total number of possible outcomes.

		Die					
		1	2	3	4	5	6
Coin	Heads	H,1	H,2	H,3	H,4	H,5	H,6
	Tails	T,1	T,2	T,3	T,4	T,5	T,6

12

22. [Problem Solving 1] *

What is the weight of four grapefruit if one and a half grapefruit of the same size weigh 600 g?



1600 g

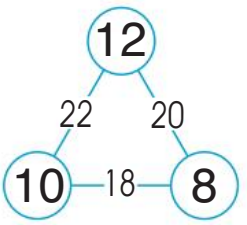
23. [Problem Solving 2] *

Ian started with the same number of marbles as his brother Francis. After winning 4 marbles from Francis, Ian realises he now has twice as many marbles as his brother. How many marbles does Ian have now?

16

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

Term 3 - Sheet 1

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	8	9	15	11	13	14	12	20	16	7
+ 8	16	17	23	19	21	22	20	28	24	15

2. [– Whole Numbers to 10]

	8	21	13	9	14	10	26	12	15	7
– 4	4	17	9	5	10	6	22	8	11	3

3. [× Whole Numbers to 10]

	6	2	1	3	10	4	7	8	5	9
× 9	54	18	9	27	90	36	63	72	45	81

4. [÷ Whole Numbers to 10]

	70	21	49	7	42	28	63	35	14	56
÷ 7	10	3	7	1	6	4	9	5	2	8

DID YOU KNOW ...

...If you could drive through space in a car that travels at 100 kilometres per hour, driving non stop, it would take you 5 months to reach the Moon and 170 years to reach the Sun.

5. [Large Number +]

$$\begin{array}{r} 285 \\ +\ 134 \\ \hline 419 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 97 \\ -\ 39 \\ \hline 58 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 38 \\ \times\ 1000 \\ \hline 38000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 370 \\ \times\ \ 4 \\ \hline 1480 \end{array}$$

9. [Decimals]

Which of the following are true?

A) 9 = 9.0
B) 15 = 1.5
C) 0.3 = 0.300
D) 0.5 = 0.05

A and C

10. [Fractions]

Complete the subtraction.

$\frac{5}{6} - \frac{1}{6} =$ $\frac{4}{6}$ or $\frac{2}{3}$

11. [Decimals / Fractions / Percentages]

Write the mixed number $5\frac{8}{10}$ as a decimal.

5.8

12. [Place Value]

Which digit in 81.43 is in the same place as the 5 in 2.596?

4

13. [Operations] *

$3 \times 4 + 7 =$

19

14. [Exploring Numbers]

Complete the next two multiples of 4.

4, 8, 12, 16 , 20

15. [Number Patterns / Equations]

1, 2, 4, 8, 16, 32 , 64

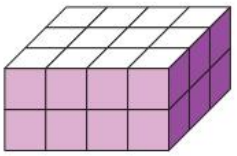
16. [Units of Measurement]

Convert to millilitres:

4 L = **4000 mL**

17. [Measuring]

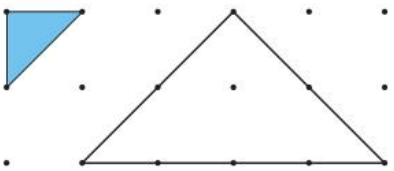
How many cubes were used to make the prism?



24

18. [Perimeter / Area]

How many coloured triangles are needed to cover the larger triangle?



8

19. [Shapes]

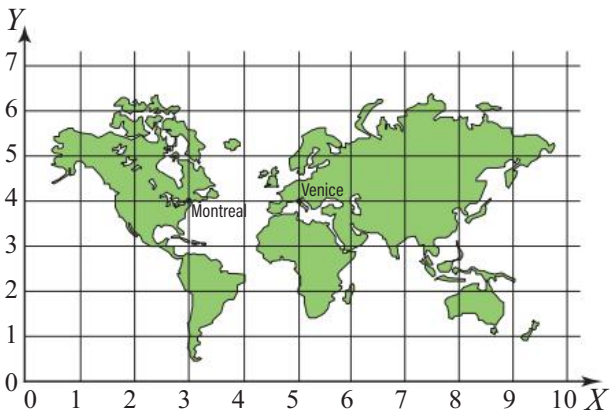
What type of solid is shown below?

A) triangular prism
B) cone
C) cylinder

B

20. [Location / Transformation]

Montreal (Canada) is located at coordinates (3,4). What are the coordinates of Venice (Italy)?



(5,4)

21. [Statistics / Probability]

Which alternative is closest in meaning to the expression "Sure as the sun will rise"?

A) most likely to happen
B) unlikely to happen
C) certain to happen

C

22. [Problem Solving 1] *

Rugby players numbered 1 to 12 are standing in a circle in numerical order. They are evenly spaced. What number does the player opposite number 3 wear?

9

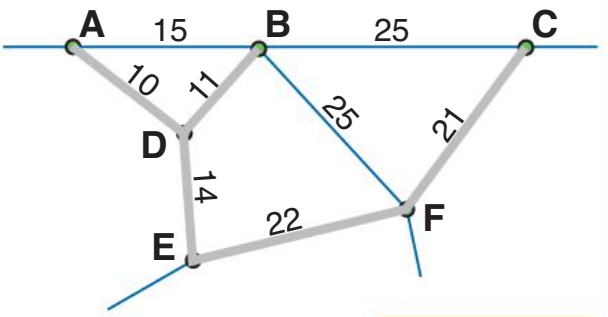
23. [Problem Solving 2]

Fill in the missing digits in the sum.

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

24. [Problem Solving 3] *

Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required. [For example A to D to E to F and D to B to C would work, but is not the shortest. All distances are in kilometres.]



78 km

MATHS MATE

Term 3 - Sheet 2

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	6	10	14	18	11	19	13	7	15	12
+ 6	12	16	20	24	17	25	19	13	21	18

2. [– Whole Numbers to 10]

	9	16	27	15	10	13	11	18	22	14
– 8	1	8	19	7	2	5	3	10	14	6

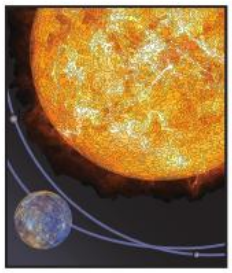
3. [× Whole Numbers to 10]

	3	7	6	4	9	8	5	2	1	10
× 7	21	49	42	28	63	56	35	14	7	70

4. [÷ Whole Numbers to 10]

	70	30	50	10	40	100	80	60	20	90
÷ 10	7	3	5	1	4	10	8	6	2	9

DID YOU KNOW ...



Mercury takes 88 days to go around (orbit) the Sun, giving it the fastest orbit of all the planets. Pluto has the slowest orbit taking 248 years.

How long does it take Earth to orbit the Sun?

Answer: Between 365 and 366 days

5. [Large Number +]

$$\begin{array}{r} 63 \\ +\,56 \\ \hline 119 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 546 \\ -\,408 \\ \hline 138 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 19 \\ \times\,1000 \\ \hline 19000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 430 \\ \times\quad 8 \\ \hline 3440 \end{array}$$

9. [Decimals]

Which of the following are true?

A) 50 = 500
B) 0.70 = 0.070
C) 2.0 = 2.00
D) 0.10 = 0.1

C and D

10. [Fractions]

Shade to complete the sum.

$\frac{3}{7} + \frac{4}{7} =$ $\frac{7}{7}$ or 1

11. [Decimals / Fractions / Percentages]

Write the mixed number $2\frac{1}{10}$ as a decimal.

2.1

12. [Place Value]

Which digit in 25.694 is in the same place as the 7 in 0.872?

9

13. [Operations] *

$20 \div 2 + 3 =$

13

14. [Exploring Numbers]

Which number is a factor of 18?

4, 7, 9 or 12

9

15. [Number Patterns / Equations]

1, 3, 9, 27, 81 , 243

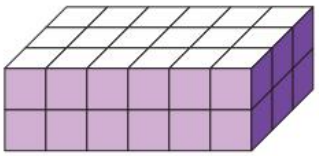
16. [Units of Measurement]

Convert to litres:

9000 mL = **9 L**

17. [Measuring]

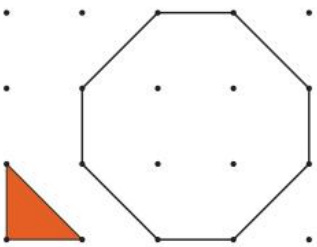
How many cubes were used to make the prism?



36

18. [Perimeter / Area]

How many coloured triangles are needed to cover the octagon?



14

19. [Shapes]

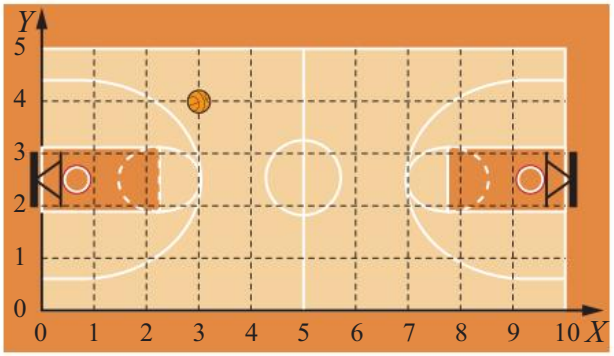
What type of solid is shown below?

A) cube
B) square pyramid
C) rectangular prism

C

20. [Location / Transformation]

What are the coordinates of the ball on this view of the basketball court?



(3,4)

21. [Statistics / Probability]

Which alternative is closest in meaning to the expression "Once in a blue moon"?

A) 50 - 50 chance of occurring
B) unlikely to occur
C) likely to occur

B

22. [Problem Solving 1] *

A number of hockey players are standing in a circle. They are evenly spaced and the fourth player is directly opposite the ninth player. How many hockey players are there altogether?

10

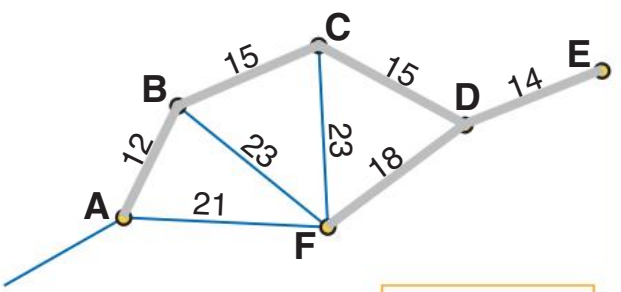
23. [Problem Solving 2]

Fill in the missing digits in the sum.

$$\begin{array}{r} 1\ 6\ \boxed{4} \\ 5\ 5\ 5 \\ +\ \boxed{2}\ 4\ 9 \\ \hline 9\ \boxed{6}\ 8 \end{array}$$

24. [Problem Solving 3] *

Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required. [For example A to F to D to E and F to B to C would work, but is not the shortest. All distances are in kilometres.]



74 km

MATHS MATE

Term 3 - Sheet 3

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	11	9	13	17	15	18	12	16	14	10
+ 4	15	13	17	21	19	22	16	20	18	14

2. [– Whole Numbers to 10]

	17	8	15	16	23	24	12	10	19	11
– 7	10	1	8	9	16	17	5	3	12	4

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

	36	63	9	81	90	27	45	72	54	18
÷ 9	4	7	1	9	10	3	5	8	6	2

DID YOU KNOW ...

...On the Moon, astronauts weigh only one sixth of their weight on Earth because gravity is weaker on the Moon.

...You could throw a ball six times higher on the Moon.
(Would it be harder to catch?)
Try: kids-ask-nasa@quest.nasa.gov

...The Hubble Telescope is 2.4 metres across and it is orbiting Earth.

...Telescopes today could pick up the light of a candle on the Moon.
(If you could light one!)

5. [Large Number +]

$$\begin{array}{r} 8042 \\ +\ 594 \\ \hline 8636 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 771 \\ -\ 246 \\ \hline 525 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 545 \\ \times\ 1000 \\ \hline 545000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 508 \\ \times\ 5 \\ \hline 2540 \end{array}$$

9. [Decimals]

Which of the following are true?

A) 4.00 = 40.0
B) 0.06 = 0.060
C) 8 = 80
D) 10 = 10.0

B and D

10. [Fractions]

Complete the subtraction.

$\frac{7}{8} - \frac{5}{8} =$ $\frac{2}{8}$ or $\frac{1}{4}$

11. [Decimals / Fractions / Percentages]

Write the mixed number $4\frac{75}{100}$ as a decimal.

4.75

12. [Place Value]

What is the value of the digit 5 in the number 34.567?

$\frac{5}{10}$ or 0.5

13. [Operations] *

$5 + 2 \times 2 =$ 9

14. [Exploring Numbers]

Which number is **not** a factor of 12?

2, 4, 5 or 12

5

15. [Number Patterns / Equations]

96, 48, 24, 12, 6 , 3

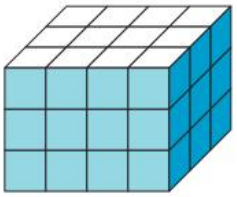
16. [Units of Measurement]

Convert to litres:

12 000 mL = **12 L**

17. [Measuring]

Find the volume of the prism.

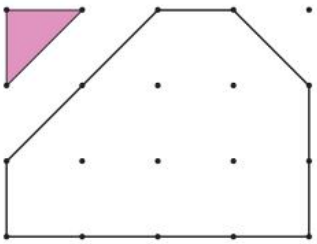


Volume = 1 cm^3

36 cm^3

18. [Perimeter / Area]

How many coloured triangles are needed to cover the shape?



19

19. [Shapes]

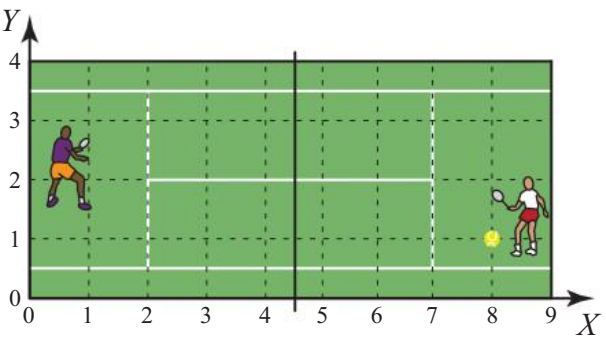
What type of solid is shown below?

A) sphere
B) cylinder
C) cone

A

20. [Location / Transformation]

What are the coordinates of the tennis ball?



(8,1)

21. [Statistics / Probability]

Which alternative is closest in meaning to the expression "To be in the box seat"?

A) most likely to succeed
B) unlikely to succeed
C) certain to succeed

A

22. [Problem Solving 1] *

A number of cricketers are standing in a circle. They are evenly spaced and the second cricketer is directly opposite the sixth player. How many cricketers are there altogether?

8

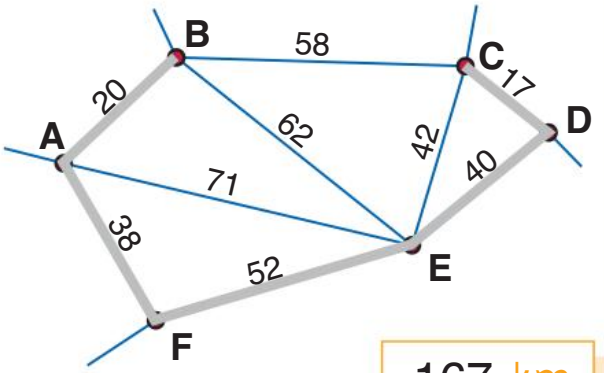
23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

$$\begin{array}{r} 8\,\boxed{0}\,6 \\ -\,\boxed{3}\,7\,5 \\ \hline 4\,3\,\boxed{1} \end{array}$$

24. [Problem Solving 3] *

Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required. [For example A to B to C to D and A to F to E would work, but is not the shortest. All distances are in kilometres.]



167 km

MATHS MATE

Term 3 - Sheet 4

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	10	17	8	16	14	11	15	13	9	12
+ 3	13	20	11	19	17	14	18	16	12	15

2. [– Whole Numbers to 10]

	16	12	9	13	20	15	24	7	28	31
– 6	10	6	3	7	14	9	18	1	22	25

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

	80	48	24	40	72	16	56	32	8	64
÷ 8	10	6	3	5	9	2	7	4	1	8

DID YOU KNOW ...

...The International Space Station has been built as it orbited Earth 360 km above the ground.

...It circles the globe every 90 minutes, at a speed of about 28 100 kilometres per hour.

5. [Large Number +]

$$\begin{array}{r} 141 \\ 50 \\ 123 \\ +\ 31 \\ \hline 345 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 863 \\ -\ 437 \\ \hline 426 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 70 \\ \times 1000 \\ \hline 70000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 602 \\ \times\ 9 \\ \hline 5418 \end{array}$$

9. [Decimals]

Which of the following are true?

A) 0.03 = 0.030
B) 9.00 = 9.0
C) 0.40 = 0.04
D) 1.00 = 10.0

A and B

10. [Fractions]

Shade to complete the sum.

$\frac{3}{10} + \frac{6}{10} =$ $\frac{9}{10}$

11. [Decimals / Fractions / Percentages]

Write the mixed number $1\frac{17}{100}$ as a decimal.

1.17

12. [Place Value]

What is the value of the digit 8 in the number 126.78?

$\frac{8}{100}$ or 0.08

13. [Operations] *

12 + 6 ÷ 3 = 14

14. [Exploring Numbers]

Complete the next two multiples of 5.

5, 10, 15, 20, 25 , 30

15. [Number Patterns / Equations]

5000, 1000, 200, 40 , 8

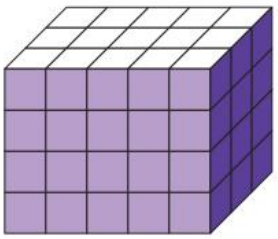
16. [Units of Measurement]

Convert to millilitres:

36 L = **36 000 mL**

17. [Measuring]

Find the volume of the prism.

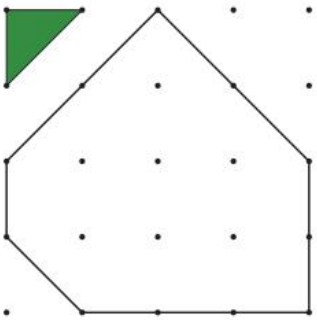


Volume = 1 cm^3

60 cm^3

18. [Perimeter / Area]

How many coloured triangles are needed to cover the shape?



23

19. [Shapes]

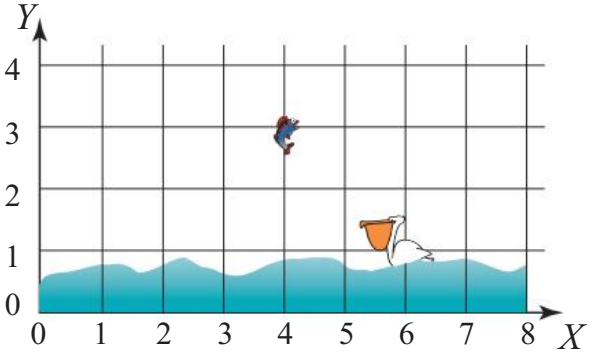
What type of solid is shown below?

A) cone
B) sphere
C) cylinder

C

20. [Location / Transformation]

What are the coordinates of the pelican and the fish?



pelican = (6,1) fish = (4,3)

21. [Statistics / Probability]

Which alternative is closest in meaning to the expression "As scarce as hen's teeth"?

A) occurs about half the time
B) not common
C) extremely rare

C

22. [Problem Solving 1] *

A number of netball players are standing in a circle. They are evenly spaced and the third player is directly opposite the eleventh player. How many netball players are there altogether?

16

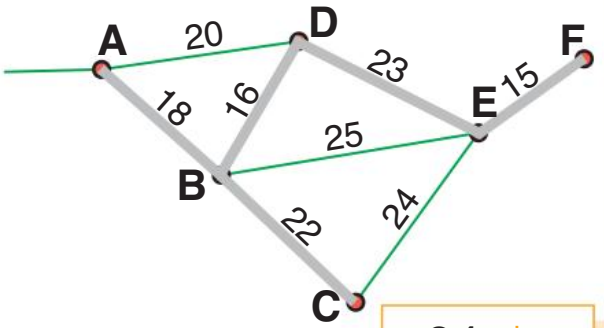
23. [Problem Solving 2]

Fill in the missing digits in the sum.

$$\begin{array}{rrr} 6 & 3 & \boxed{8} \\ 1 & 5 & 8 \\ + \ 1 & \boxed{2} & 8 \\ \hline \boxed{9} & 2 & 4 \end{array}$$

24. [Problem Solving 3] *

Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required. [For example A to D to E to F and E to B to C would work, but is not the shortest. All distances are in kilometres.]



94 km

MATHS MATE

Term 3 - Sheet 5

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	17	16	13	10	8	15	14	12	11	9
+ 3	20	19	16	13	11	18	17	15	14	12

2. [– Whole Numbers to 10]

	17	15	13	11	20	14	8	12	29	16
– 4	13	11	9	7	16	10	4	8	25	12

3. [× Whole Numbers to 10]

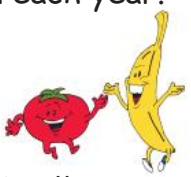
	4	5	2	9	7	3	8	1	10	6
× 7	28	35	14	63	49	21	56	7	70	42

4. [÷ Whole Numbers to 10]

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

DID YOU KNOW ...

...Bananas are the world's most popular fruit. Approximately 40 million tonnes are eaten each year.



...57.5 million tonnes of tomatoes are eaten each year and they are therefore the most popular vegetable. However a tomato is actually a seeded fruit.

So what was that about the bananas?

5. [Large Number +]

$$\begin{array}{r} 62 \\ 41 \\ +\,24 \\ \hline 127 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 500 \\ -\,\,65 \\ \hline 435 \end{array}$$

7. [Powers of 10 ×,÷]

$6000 \div 1000 =$ **6**

8. [Large Number ×,÷]

$$7\overline{)147} = 21$$

9. [Decimals]

$\$5 + \$2.75 =$ **$ 7.75**

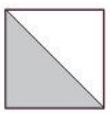
10. [Fractions]

Use <, = or > to make this statement true.

$\frac{4}{6}$ **>** $\frac{3}{6}$

11. [Decimals / Fractions / Percentages]

Shade 50% or $\frac{1}{2}$ of this square.



12. [Place Value]

Which number is greater?

3.87 or 3.087 **3.87**

13. [Operations] *

$8 + 4 - 5 - 2 =$ **5**

14. [Exploring Numbers]

Which number is a prime?

2, 8 or 10 **2**

15. [Number Patterns / Equations]

$10 \times$ **12** $= 120$

16. [Units of Measurement]

Convert to seconds:

5 min = **300 s**

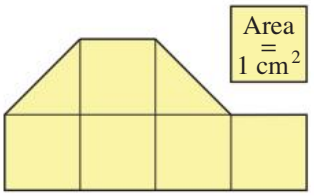
17. [Measuring]

It is 10:30 pm. What was the time 2 hours and 15 minutes before this?

or 20:15 **8 : 15 pm**

18. [Perimeter / Area]

Find the area of this shape.

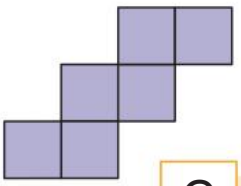


6 cm²

19. [Shapes]

Which shape can this net be used to make?

A) triangular prism
B) rectangular prism
C) cube



C

20. [Location / Transformation]

From Fort Collins you travel south until you reach the first city. From there you travel east. Which town would you pass through?

Last Chance

21. [Statistics / Probability]

A single die is thrown. What is the probability that it will roll a 5?

A) one out of six
B) one out of five
C) five out of six

A

22. [Problem Solving 1]

Complete the addition table.

+	4	5	6
2	6	7	8
3	7	8	9
4	8	9	10

23. [Problem Solving 2] *

An archaeologist found some ancient numbers written as follows:

 for 72

 for 48

and  for 9.

What did equal?

50

24. [Problem Solving 3] *

In the addition problem shown, the letters A, B and C stand for different digits. If D = 6 what number does ABC represent?

$$\begin{array}{r} A\ B\ C \\ +\ A\ B\ C \\ \hline C\ D\ D \end{array}$$

ABC = 183

MATHS MATE

Term 3 - Sheet 6

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	13	14	18	11	15	9	10	12	17	16
+ 8	21	22	26	19	23	17	18	20	25	24

2. [– Whole Numbers to 10]

	17	22	13	24	15	10	28	16	21	19
– 9	8	13	4	15	6	1	19	7	12	10

3. [× Whole Numbers to 10]

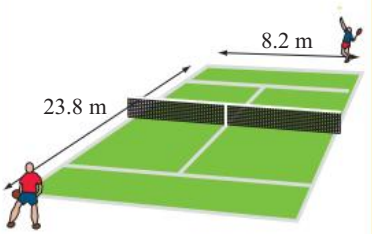
	8	6	5	3	4	1	2	10	9	7
× 5	40	30	25	15	20	5	10	50	45	35

4. [÷ Whole Numbers to 10]

	28	7	63	35	49	14	56	21	42	70
÷ 7	4	1	9	5	7	2	8	3	6	10

DID YOU KNOW ...

...If you spread out the lungs of the players in a singles tennis match, the surface area of their lungs is similar to that of the tennis court.



5. [Large Number +]

$$\begin{array}{r} 4462 \\ +\ 1285 \\ \hline 5747 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 900 \\ -\ \ 23 \\ \hline 877 \end{array}$$

7. [Powers of 10 ×,÷]

$3000 \div 1000 =$ **3**

8. [Large Number ×,÷]

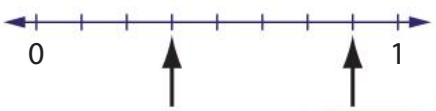
$$4\overline{)368} = 92$$

9. [Decimals]

$\$4.50 + \$2.40 =$ **$ 6.90**

10. [Fractions]

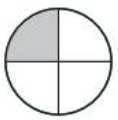
Show with arrows the fractions $\frac{3}{8}$ and $\frac{7}{8}$ on the number line. Which fraction is greater?



$\frac{7}{8}$

11. [Decimals / Fractions / Percentages]

Shade 25% or $\frac{1}{4}$ of this circle.



12. [Place Value]

Which number is greater?

0.707 or 0.71 **0.71**

13. [Operations] *

$7 - 2 + 4 + 2 =$ **11**

14. [Exploring Numbers]

Which of the following is a composite number?

3, 5, 7 or 9 **9**

15. [Number Patterns / Equations]

20 $\times 4 = 80$

16. [Units of Measurement]

Convert to minutes:

7 h = **420 min**

17. [Measuring]

It is 7:45 am. It will take me 17 minutes to eat breakfast. What time will I finish?

8 : 02 am

or 08:02

18. [Perimeter / Area]

Find the area of this shape.

Area = 1 cm^2

8 cm^2

19. [Shapes]

Which shape can this net be used to make?

A) triangular pyramid
B) pentagonal pyramid
C) hexagonal pyramid

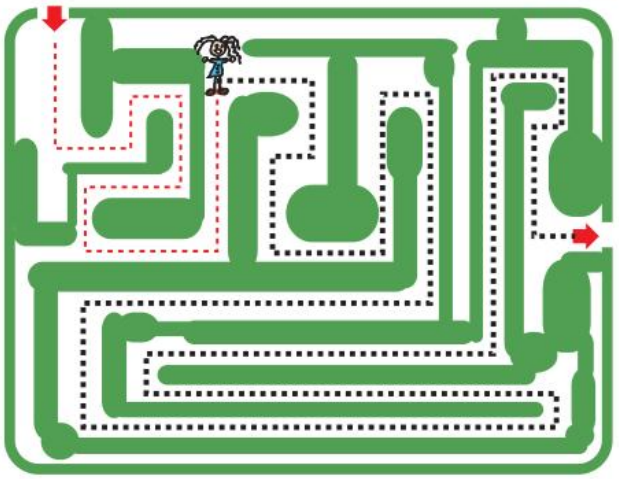
B

20. [Location / Transformation]

Complete the maze to decide the direction of Su's next three turns, in order to exit the maze.

A) north, east, south
B) east, south, west
C) north, east, north

B



21. [Statistics / Probability]

A coin is tossed. What is the probability that it will land heads up?

A) one out of one
B) one out of two
C) two out of two

B

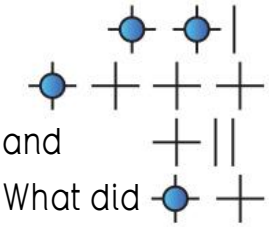
22. [Problem Solving 1]

Complete the addition table.

+	2	4	6
4	6	8	10
6	8	10	12
8	10	12	14

23. [Problem Solving 2] *

An archaeologist found some ancient numbers written as follows:



25

24. [Problem Solving 3] *

In the addition problem shown, the letters A, B and C stand for different digits. What number does ABC represent?

$$\begin{array}{r} A\ B\ C \\ A\ B \\ +\quad A \\ \hline 8\ 0\ 0 \end{array}$$

ABC = 721

MATHS MATE

Term 3 - Sheet 7

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	11	13	19	16	17	10	15	14	12	18
+ 9	20	22	28	25	26	19	24	23	21	27

2. [– Whole Numbers to 10]

	14	25	17	26	11	29	18	10	23	12
– 5	9	20	12	21	6	24	13	5	18	7

3. [× Whole Numbers to 10]

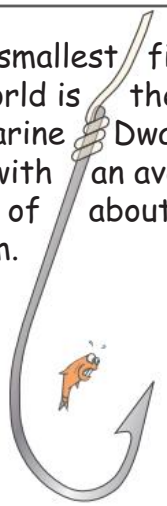
	5	9	6	7	3	1	10	4	2	8
× 6	30	54	36	42	18	6	60	24	12	48

4. [÷ Whole Numbers to 10]

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

DID YOU KNOW ...

...The smallest fish in the world is the Marine Dwarf Goby with an average length of about 8.6 mm.



However, the largest fish is the Whale Shark and its length has been recorded at 12.65 m.

5. [Large Number +]

$$\begin{array}{r} 1325 \\ 153 \\ +\,3370 \\ \hline 4848 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 800 \\ -\,\,49 \\ \hline 751 \end{array}$$

7. [Powers of 10 ×,÷]

$87\,000 \div 1000 =$ **87**

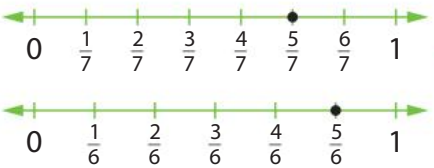
8. [Large Number ×,÷]

$$8\overline{)240} = 30$$

9. [Decimals]

$$\begin{array}{r} \$3.50 \\ +\,\$1.70 \\ \hline \$5.20 \end{array}$$

10. [Fractions]

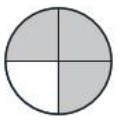


Use <, = or > to make this statement true.

$\frac{5}{7}$ **<** $\frac{5}{6}$

11. [Decimals / Fractions / Percentages]

Shade 75% or $\frac{3}{4}$ of this circle.



12. [Place Value]

Place in order from largest to smallest:

2.3, 3.1, 1.3, 3.2, 2.1, 3

3.2, 3.1, 3, 2.3, 2.1, 1.3

13. [Operations] *

$9 - 3 + 2 - 3 =$ **5**

14. [Exploring Numbers]

Which number is **not** a prime?

2, 3, 7 or 9

9

15. [Number Patterns / Equations]

$7 \times$ **30** $= 210$

16. [Units of Measurement]

Convert to minutes:

240 s = **4 min**

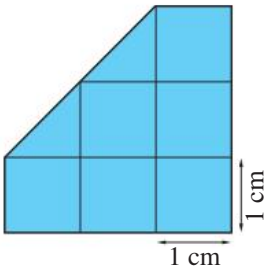
17. [Measuring]

It is 2:00 am. In another 30 hours what time will it be?

or 08:00 **8 : 00 am**

18. [Perimeter / Area]

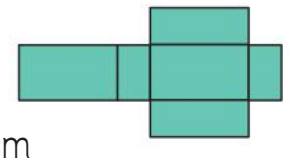
Find the area of this shape.



7 cm²

19. [Shapes]

Which shape can this net be used to make?

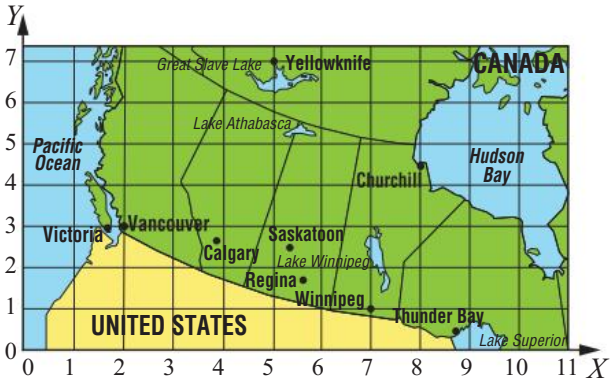


A) square prism
B) cube
C) rectangular prism

C

20. [Location / Transformation]

From Winnipeg you move two units up on the grid and five units left. Which city are you in and what are the coordinates of this city?



city: **Vancouver** **(2 , 3)**

21. [Statistics / Probability]

A single die is rolled. What is the probability that it will land on a number greater than 4?

A) one out of six
B) two out of six
C) two out of four

B

22. [Problem Solving 1]

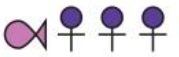
Complete the addition table.

+	5	6	7
9	14	15	16
7	12	13	14
5	10	11	12

23. [Problem Solving 2] *

An archaeologist found some ancient numbers written as follows:

 for 202

 for 130

and  for 23.

What did  equal?

113

24. [Problem Solving 3] *

In the addition problem shown, the letters A, B, C and D stand for different digits. If A < B < C < D what number does ABCD represent?

$$\begin{array}{r} A\ B\ C\ D \\ B\ C\ D \\ +\quad C\ D \\ \hline 2\ 9\ 6\ 8 \end{array}$$

ABCD = 2456

MATHS MATE

Term 3 - Sheet 8

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	19	11	15	10	14	12	17	13	6	18
+ 10	29	21	25	20	24	22	27	23	16	28

2. [– Whole Numbers to 10]

	9	30	17	16	21	15	22	4	18	23
– 3	6	27	14	13	18	12	19	1	15	20

3. [× Whole Numbers to 10]

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

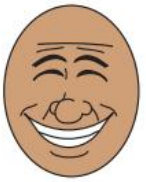
4. [÷ Whole Numbers to 10]

	63	90	36	81	27	45	18	54	9	72
÷ 9	7	10	4	9	3	5	2	6	1	8

DID YOU KNOW ...

... It takes more muscles to smile than to frown.

43 muscles are used for smiling.



17 muscles are used for frowning.

5. [Large Number +]

$$\begin{array}{r} 1033 \\ 7041 \\ +\ 1265 \\ \hline 9339 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 700 \\ -\ \ 87 \\ \hline 613 \end{array}$$

7. [Powers of 10 ×,÷]

$26\,000 \div 1000 =$ **26**

8. [Large Number ×,÷]

$$5\overline{)3500} = 700$$

9. [Decimals]

$$\begin{array}{r} \$2.45 \\ +\ \$3.75 \\ \hline \$6.20 \end{array}$$

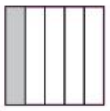
10. [Fractions]

Use <, = or > to make this statement true.

$\frac{4}{5}$ **>** $\frac{4}{9}$

11. [Decimals / Fractions / Percentages]

Shade 20% or $\frac{1}{5}$ of this square.



12. [Place Value]

Place in order from smallest to largest:

5.7, 7.05, 5.07, 7, 7.5

5.07, 5.7, 7, 7.05, 7.5

13. [Operations] *

$8 - 3 - 2 + 5 =$ **8**

14. [Exploring Numbers]

List the composite numbers between 5 and 10.

6, 8, 9

15. [Number Patterns / Equations]

5 × 60 = 300

16. [Units of Measurement]

Convert to hours:

180 min = **3 h**

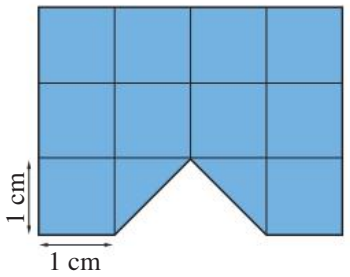
17. [Measuring]

The ballet concert started at 19:15.
It lasted 3 hours and 5 minutes.
When did it finish?
[Use the 24-hour clock.]

22 : 20

18. [Perimeter / Area]

Find the area of this shape.

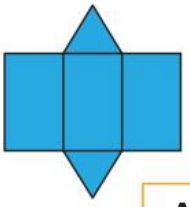


11 cm²

19. [Shapes]

Which shape can this net be used to make?

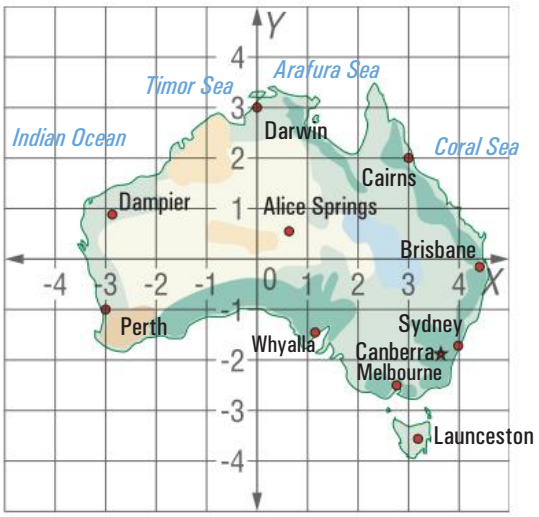
A) triangular prism
B) square prism
C) triangular pyramid



A

20. [Location / Transformation]

From Cairns you move three units down the grid and six units left. Which city are you in and what are the coordinates of this city?



city: **Perth** (–3, –1)

21. [Statistics / Probability]

A spinner is spun. What is the probability that it will stop on 4?

A) one out of five
B) one out of four
C) four out of five

A

22. [Problem Solving 1]

Complete the addition table.

+	7	1	6
6	13	7	12
1	8	2	7
7	14	8	13

23. [Problem Solving 2] *

An archaeologist found some ancient numbers written as follows:

 for 52

 for 40

and  for 13.

What did  equal?

33

24. [Problem Solving 3] *

In the addition problem shown, the letters A, B, C, D and E stand for different digits. If A = 7 what number does ABCDE represent?

```
  A B C D E
    B C D E
+     C D E
-------------
  7 4 9 1 5
```

ABCDE = 72305

MATHS MATE

Term 4 - Sheet 1

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	9	15	8	11	23	4	20	22	16	17
+ 10	19	25	18	21	33	14	30	32	26	27

2. [– Whole Numbers to 10]

	16	21	13	10	17	28	19	14	25	12
– 5	11	16	8	5	12	23	14	9	20	7

3. [× Whole Numbers to 10]

	7	8	2	4	10	1	3	9	5	6
× 8	56	64	16	32	80	8	24	72	40	48

4. [÷ Whole Numbers to 10]

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

COUNT TO TEN

English	Italian	German
One	Uno	Eins
Two	Due	Zwei
Three	Tre	Drei
Four	Quattro	Vier
Five	Cinque	Fünf
Six	Sei	Sechs
Seven	Sette	Sieben
Eight	Otto	Acht
Nine	Nove	Neun
Ten	Dieci	Zehn

5. [Large Number +]

$$\begin{array}{r} 66 \\ +\,445 \\ \hline 511 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 364 \\ -\,\,68 \\ \hline 296 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 280 \\ \times\,\,10 \\ \hline 2800 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 153 \\ \times\,\,6 \\ \hline 918 \end{array}$$

9. [Decimals]

How much change will you receive from $2.00 if you spend $0.65?

$ 1.35

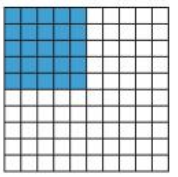
10. [Fractions]

Shade the bars to complete the equivalent fractions.

$\frac{2}{3} = \frac{4}{6}$

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



25 %

12. [Place Value]

Round 286 to the nearest hundred.

300

13. [Operations] *

$7 - (4 + 3) =$ 0

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 12:

$12 = 3 \times$ 4

15. [Number Patterns / Equations]

$48 \div$ 8 $= 6$

16. [Units of Measurement] *

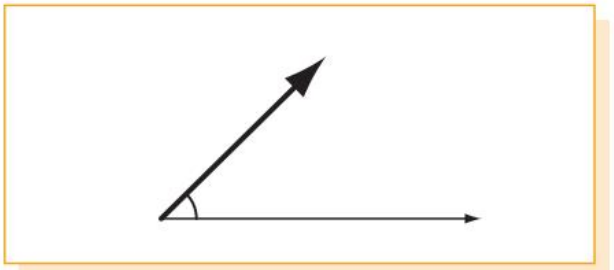
Which is greater?

49 kg or 5000 g

49 kg

17. [Measuring]

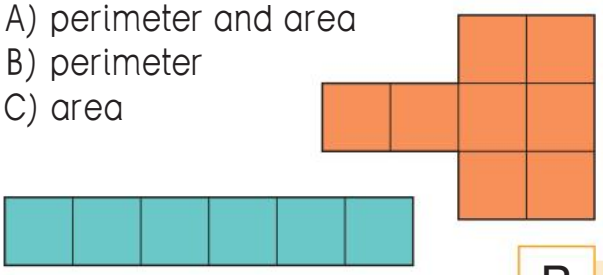
Draw an acute angle using this line.



18. [Perimeter / Area]

The shapes below have the same:

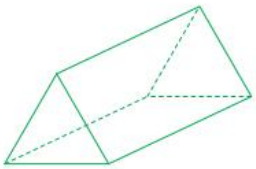
A) perimeter and area
B) perimeter
C) area



B

19. [Shapes]

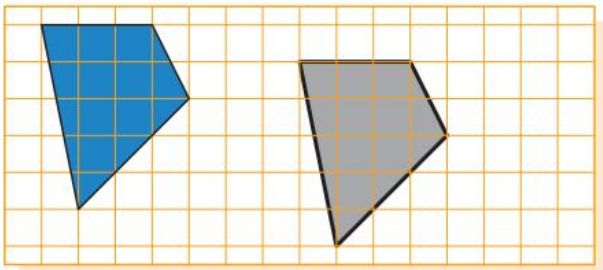
How many faces does a triangular prism have?



5

20. [Location / Transformation]

Redraw this shape after translating it 7 units to the right and 1 unit down.



21. [Statistics / Probability]

A jar contains 8 yellow marbles and 11 green marbles. What is the chance that the first marble drawn will be black?

A) impossible
B) unlikely
C) likely
D) certain

A

22. [Problem Solving 1] *

A family of six (two adults and four children) are planning their visit to a theme park. How much do they save if they buy their one-day tickets online?

Theme park • One-day tickets

Ticket Type	Price
online price adult	$85
online price child/pensioner	$80
gate price adult	$95
gate price child/pensioner	$95

$ 80

23. [Problem Solving 2] *

I think of a number, subtract 5 and then divide by 3. If the result is 6, what was the original number?

23

24. [Problem Solving 3] *

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret Number	Cows	Bulls
1st	1 2 3	1	-
2nd	1 2 4	-	-
3rd	1 5 6	-	2

356

MATHS MATE

Term 4 - Sheet 2

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	6	20	19	28	11	14	13	27	25	12
+ 7	13	27	26	35	18	21	20	34	32	19

2. [– Whole Numbers to 10]

	13	22	16	20	15	17	28	14	21	19
– 9	4	13	7	11	6	8	19	5	12	10

3. [× Whole Numbers to 10]

	10	6	4	5	2	1	7	3	8	9
× 10	100	60	40	50	20	10	70	30	80	90

4. [÷ Whole Numbers to 10]

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

COUNT TO TEN

Chinese	Arabic Numbers	Japanese
yī	1	ichi
èr	2	ni
sān	3	san
sì	4	shi
wǔ	5	go
liù	6	roku
qī	7	shichi
bā	8	hachi
jiǔ	9	kyū
shí	10	jū

5. [Large Number +]

$$\begin{array}{r} 1278 \\ +\ 344 \\ \hline 1622 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 625 \\ -\ 339 \\ \hline 286 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 60 \\ \times\ 100 \\ \hline 6000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 176 \\ \times\ 9 \\ \hline 1584 \end{array}$$

9. [Decimals]

How much change will you receive from $5.00 if you spend $3.40?

$ 1.60

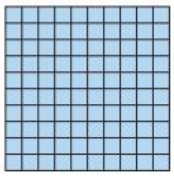
10. [Fractions]

Shade the bars to complete the equivalent fractions.

$\frac{6}{8} = \frac{3}{4}$

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



100 %

12. [Place Value]

Round 4948 to the nearest ten.

4950

13. [Operations] *

$9 - (6 - 2) =$ 5

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 30:

$30 = 2 \times 3 \times 5$

15. [Number Patterns / Equations]

$72 \div 6 = 12$

16. [Units of Measurement] *

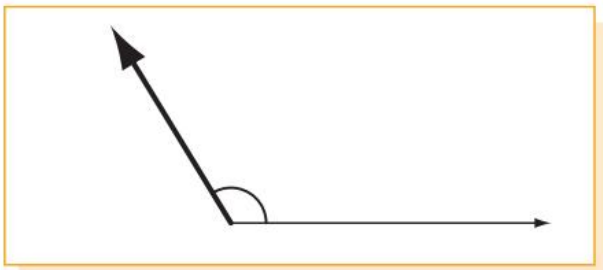
Which is greater?

50 000 mL or 6 L

50 000 mL

17. [Measuring]

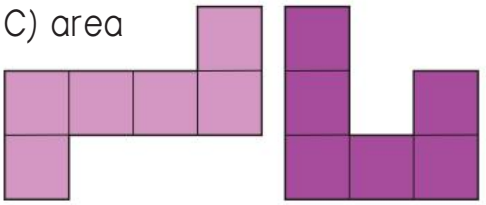
Draw an obtuse angle using this line.



18. [Perimeter / Area]

The shapes below have the same:

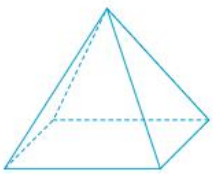
A) perimeter and area
B) perimeter
C) area



A

19. [Shapes]

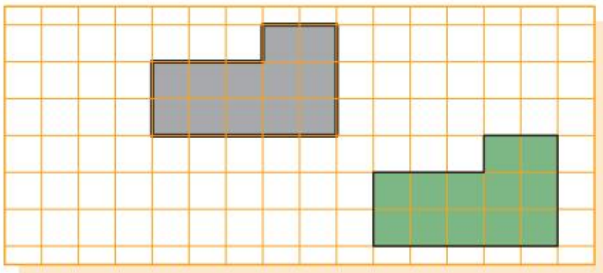
How many edges does a rectangular pyramid have?



8

20. [Location / Transformation]

Redraw this shape after translating it 6 units to the left and 3 units up.



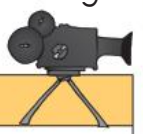
21. [Statistics / Probability]

A jar contains 7 blue marbles and 5 red marbles. One marble is to be taken from the jar without looking. Which colour is more likely to be drawn out, blue or red?

blue

22. [Problem Solving 1] *

Miranda and Gina take $50 to the movies. They buy their tickets, two medium soft drinks and one large popcorn to share. How much change do they receive?



Today at the movies		
Movie ticket	all ages	$13.50
Popcorn	small	$3.50
	medium	$5.00
	large	$6.50
Soft drinks	small	$4.00
	medium	$5.00
	large	$6.00

$ 6.50

23. [Problem Solving 2] *

I think of a number, add 9 and then multiply by 3. If the result is 30, what was the original number?

1

24. [Problem Solving 3] *

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret Number	Cows	Bulls
1st	4 5 6	-	2
2nd	9 5 7	-	-
3rd	6 7 8	2	-

486

MATHS MATE

Term 4 - Sheet 3

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	14	9	13	27	15	18	22	16	21	10
+ 9	23	18	22	36	24	27	31	25	30	19

2. [– Whole Numbers to 10]

	21	15	9	24	27	6	13	22	10	28
– 4	17	11	5	20	23	2	9	18	6	24

3. [× Whole Numbers to 10]

	2	5	10	9	7	4	1	6	3	8
× 7	14	35	70	63	49	28	7	42	21	56

4. [÷ Whole Numbers to 10]

	24	15	3	21	9	30	27	12	18	6
÷ 3	8	5	1	7	3	10	9	4	6	2

COUNT TO TEN

Russian	Roman Numbers	Polish
Odin	I	Jeden
Dva	II	Dwa
Try	III	Trzy
Chetyre	IV	Cztery
Piat	V	Piec
Shest	VI	Szesc
Sem	VII	Siedem
Vosem	VIII	Osiem
Deviat	IX	Dziewiec
Desiat	X	Dziesiec

5. [Large Number +]

$$\begin{array}{r} 3215 \\ 1085 \\ +\,2415 \\ \hline 6715 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 465 \\ -\,278 \\ \hline 187 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 430 \\ \times\,100 \\ \hline 43000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 134 \\ \times\quad 7 \\ \hline 938 \end{array}$$

9. [Decimals]

How much change will you receive from $5.00 if you spend $3.75?

$ 1.25

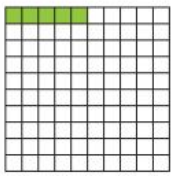
10. [Fractions]

Shade the bars to complete the equivalent fractions.

$\frac{8}{10} = \frac{4}{5}$

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



5 %

12. [Place Value]

Round 7.4 to the nearest whole number.

7

13. [Operations] *

$10 - (4 - 3) =$ 9

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 40:

$40 = 2 \times 4 \times$ 5

15. [Number Patterns / Equations]

40 ÷ 5 = 8

16. [Units of Measurement] *

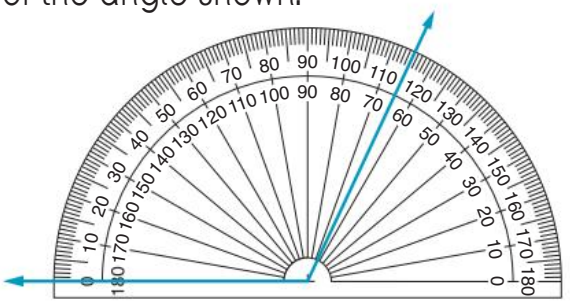
Which is greater?

13 cm or 1300 mm

1300 mm

17. [Measuring]

Using the protractor measure the size of the angle shown.

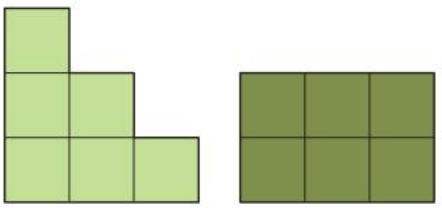


115°

18. [Perimeter / Area]

The shapes below have the same:

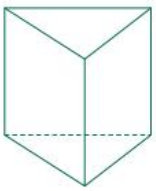
A) perimeter and area
B) perimeter
C) area



C

19. [Shapes]

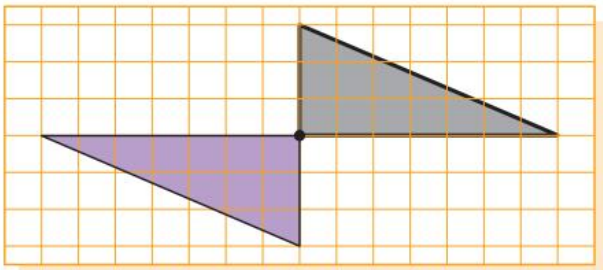
How many edges does a triangular prism have?



9

20. [Location / Transformation]

Redraw this shape after rotating it 180° around the marked point.



21. [Statistics / Probability]

A jar contains 3 gold marbles and 5 purple marbles. One marble is to be taken from the jar without looking. Which colour is less likely to be drawn out, gold or purple?

gold

22. [Problem Solving 1] *

How much is saved by buying a Fun Park family ticket rather than 2 adult and 2 child tickets?

Gondola + 3 Luge Rides Package

Ticket Type	*Price*
Adult (15+ years)	**$53**
Child (5 - 14 years)	**$43**
Family (2A + 2C)	**$143**

$ 49

23. [Problem Solving 2] *

I think of a number, double it and then add 4. If the result is 20, what was the original number?

8

24. [Problem Solving 3] *

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret Number	Cows	Bulls
1st	1 7 8	-	-
2nd	8 3 1	1	-
3rd	8 5 3	2	-
4th	2 9 7	1	-

325

MATHS MATE

Term 4 - Sheet 4

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	9	14	8	10	27	21	15	12	23	26
+ 5	14	19	13	15	32	26	20	17	28	31

2. [– Whole Numbers to 10]

	35	12	13	27	11	10	9	14	18	6
– 3	32	9	10	24	8	7	6	11	15	3

3. [× Whole Numbers to 10]

	9	1	8	6	5	2	4	7	3	10
× 9	81	9	72	54	45	18	36	63	27	90

4. [÷ Whole Numbers to 10]

	80	32	56	8	40	72	24	16	64	48
÷ 8	10	4	7	1	5	9	3	2	8	6

COUNT TO TEN

French	Spanish	Greek
Un	Uno	Ena
Deux	Dos	Dio
Trois	Tres	Tria
Quatre	Cuatro	Tessera
Cinq	Cinco	Pende
Six	Seis	Exi
Sept	Siete	Epta
Huit	Ocho	Okto
Neuf	Nueve	Enea
Dix	Diez	Deka

5. [Large Number +]

$$\begin{array}{r} 6519 \\ 144 \\ +\,2285 \\ \hline 8948 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 736 \\ -\,458 \\ \hline 278 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 50 \\ \times\,1000 \\ \hline 50000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 135 \\ \times\quad 8 \\ \hline 1080 \end{array}$$

9. [Decimals]

How much change will you receive from $10.00 if you spend $1.05?

$ 8.95

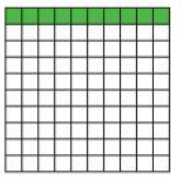
10. [Fractions]

Shade the bars to complete the equivalent fractions.

$\frac{2}{4} = \frac{3}{6}$

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



10 %

12. [Place Value]

Round 5.5 to the nearest whole number.

6

13. [Operations] *

$7 - (4 + 2) =$ 1

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 48:

$48 = 2 \times$ 3 $\times 8$

15. [Number Patterns / Equations]

63 $\div 9 = 7$

16. [Units of Measurement] *

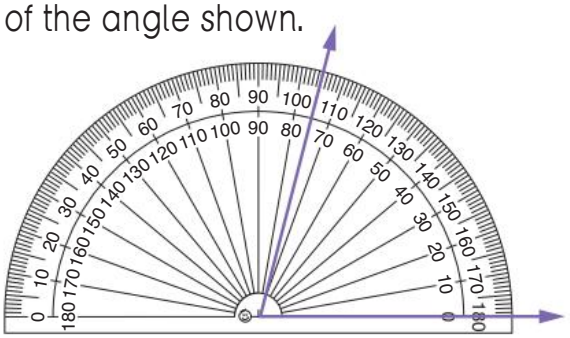
Which is greater?

7 t or 8000 kg

8000 kg

17. [Measuring]

Using the protractor measure the size of the angle shown.

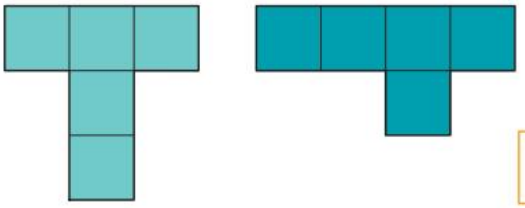


75°

18. [Perimeter / Area]

The shapes below have the same:

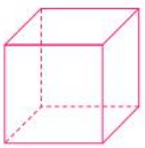
A) perimeter and area
B) perimeter
C) area



A

19. [Shapes]

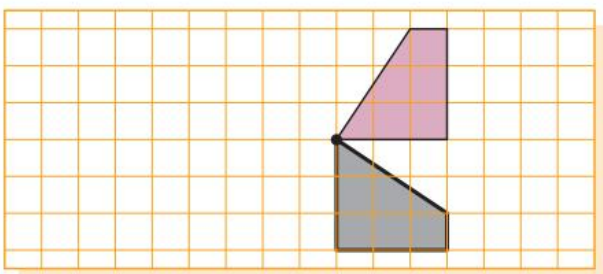
How many vertices does a cube have?



8

20. [Location / Transformation]

Redraw this shape after rotating it 90° clockwise around the marked point.



21. [Statistics / Probability]

A jar contains 5 yellow marbles and 15 green marbles. What is the chance that the first marble drawn will be yellow?

A) impossible
B) unlikely
C) likely
D) certain

B

22. [Problem Solving 1] *

The Murphys have three children, aged 5, 8 and 11. How much does this family save if they pay as a family and one extra child, rather than individuals?

ADVENTURE PARK

Ticket Type	*Online Price*
Adult (16+ years)	**$26.00**
Child (4 - 15 years. Under 3s go free!)	**$15.40**
Concession (Student or Pensioner)	**$25.00**
Family of 4 (Maximum 2 adults)	**$69.00**

$13.80

23. [Problem Solving 2] *

I think of a number, double it and then add 8. If the result is 40, what was the original number?

16

24. [Problem Solving 3] *

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret Number	Cows	Bulls
1st	7 9 4	-	1
2nd	6 8 1	1	-
3rd	5 7 9	-	1
4th	4 5 6	3	-

564

MATHS MATE

Term 4 - Sheet 5

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	27	16	29	20	18	15	21	24	12	23
+ 4	31	20	33	24	22	19	25	28	16	27

2. [– Whole Numbers to 10]

	11	8	24	13	12	30	16	17	15	29
– 7	4	1	17	6	5	23	9	10	8	22

3. [× Whole Numbers to 10]

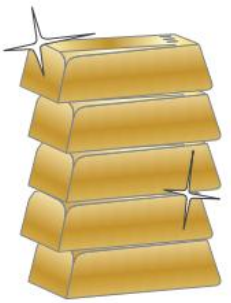
	6	10	1	5	8	3	9	7	4	2
× 8	48	80	8	40	64	24	72	56	32	16

4. [÷ Whole Numbers to 10]

	24	6	30	12	27	21	9	18	15	3
÷ 3	8	2	10	4	9	7	3	6	5	1

GOLD

GOLD is the most malleable and ductile of metals. A small piece of gold the size of a pinhead and weighing about 1 gram can be drawn out into a continuous wire thread about 2000 metres in length!



5. [Large Number +]

$$\begin{array}{r} 3489 \\ +\ 3235 \\ \hline 6724 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 351 \\ -\ \ 76 \\ \hline 275 \end{array}$$

7. [Powers of 10 ×,÷]

$700 \div 10 =$ **70**

8. [Large Number ×,÷]

$$\begin{array}{r} 34 \\ \times\ 52 \\ \hline 68 \\ 1700 \\ \hline 1768 \end{array}$$

9. [Decimals]

$$\begin{array}{r} 8.41 \\ +\ 0.6 \\ \hline 9.01 \end{array}$$

10. [Fractions]

$\frac{1}{5} + \frac{3}{5} =$ $\frac{4}{5}$

11. [Decimals / Fractions / Percentages]

Write 25% in decimal form. **0.25**

12. [Place Value] *

Estimate the sum of 21 and 77 by rounding to the nearest ten before adding. **100**

13. [Operations] *

$(5 + 2) \times 3 =$ **21**

14. [Exploring Numbers] *

Which of the numbers 2, 3, 4 and 6 are factors of 438? **2, 3, 6**

15. [Number Patterns / Equations]

1, 2, 4, 7, 11, **16 , 22**

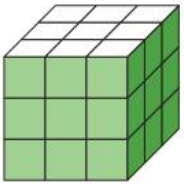
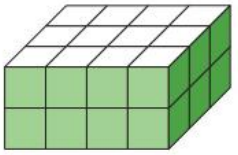
16. [Units of Measurement] *

Circle the longest time.

3 h 3000 s **300 min**

17. [Measuring]

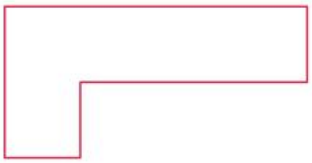
Which prism has the greater volume?

A)  B) 

A

18. [Perimeter / Area]

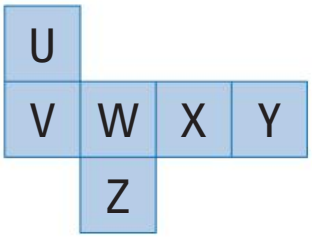
Using a ruler, find the perimeter of the shape in centimetres.



12 cm

19. [Shapes]

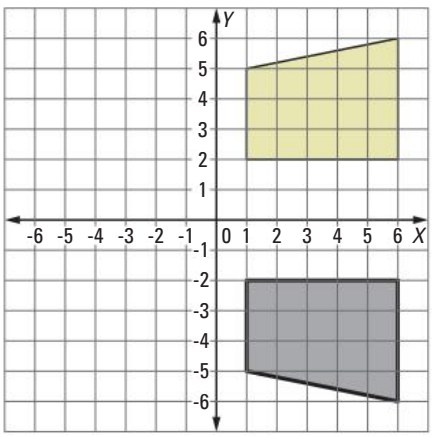
This net forms a cube when folded. Which letter is on the face opposite to letter Y?



W

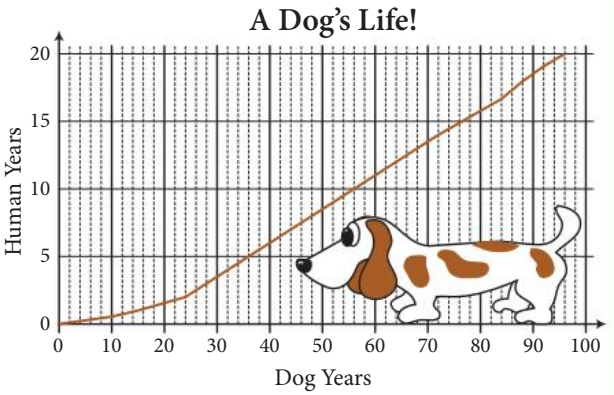
20. [Location / Transformation]

Redraw this shape after reflecting it in the *X*-axis.



21. [Statistics / Probability]

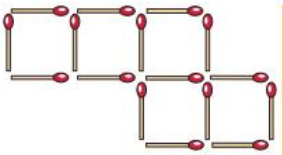
How old, in dog years, is your dog after 5 human years?

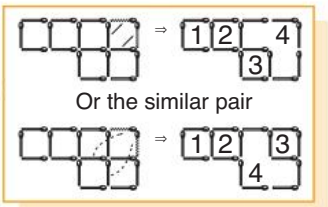


36 years

22. [Problem Solving 1]

Move 2 matches to leave 4 squares.





23. [Problem Solving 2] *

Which bag of almonds is the best value?

A) 600 g for $36
B) 400 g for $22

B

24. [Problem Solving 3]

Fill in the big square so that each row and each column contain the numbers 1, 2 and 3. The digits within each coloured area, when combined using the given operation, must equal the given number.

12× 3	2	6+ 1
2	4+ 1	3
1	3	2

MATHS MATE

Term 4 - Sheet 6

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	18	23	4	10	15	19	21	12	6	17
+ 5	23	28	9	15	20	24	26	17	11	22

2. [– Whole Numbers to 10]

	18	15	26	14	12	30	19	13	17	21
– 8	10	7	18	6	4	22	11	5	9	13

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

	45	18	9	90	27	54	63	36	81	72
÷ 9	5	2	1	10	3	6	7	4	9	8

DIAMONDS

The weight of diamonds is measured in **carats**. There are approximately 142 carats to the ounce. (1 ounce = 28.4 grams)

A diamond weighing 100.10 carats was sold for $16 548 750 in Geneva in 1995.

5. [Large Number +]

$$\begin{array}{r} 4427 \\ 162 \\ +\ 3248 \\ \hline 7837 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 403 \\ -\ 49 \\ \hline 354 \end{array}$$

7. [Powers of 10 ×,÷]

$4000 \div 100 =$ **40**

8. [Large Number ×,÷]

$$\begin{array}{r} 62 \\ \times\ 41 \\ \hline 62 \\ 2480 \\ \hline 2542 \end{array}$$

9. [Decimals]

$$\begin{array}{r} 4.59 \\ +\ 2.74 \\ \hline 7.33 \end{array}$$

10. [Fractions]

$\frac{4}{6} - \frac{3}{6} =$ $\frac{1}{6}$

11. [Decimals / Fractions / Percentages]

Write 10% in decimal form. **0.1**

12. [Place Value] *

Estimate the sum of 34 and 89 by rounding to the nearest ten before adding. **120**

13. [Operations] *

$30 \div (5 + 1) =$ **5**

14. [Exploring Numbers] *

Which of the numbers 2, 3, 4, 5 and 6 are factors of 5210? **2, 5**

15. [Number Patterns / Equations]

1, 2, 5, 10, 17, **26 , 37**

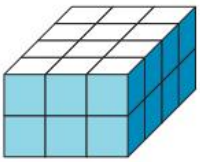
16. [Units of Measurement] *

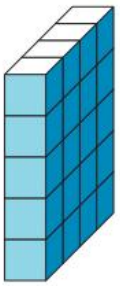
Circle the longets time.

3 months 100 days 15 weeks

17. [Measuring]

Which prism has the lesser volume?

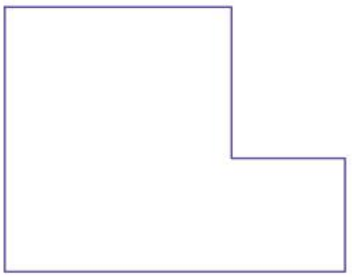
A) 

B) 

B

18. [Perimeter / Area]

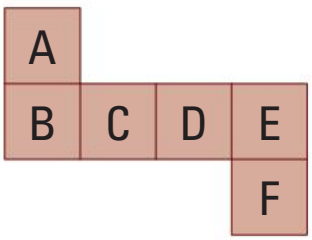
Using a ruler, find the perimeter of the shape in centimetres.



16 cm

19. [Shapes]

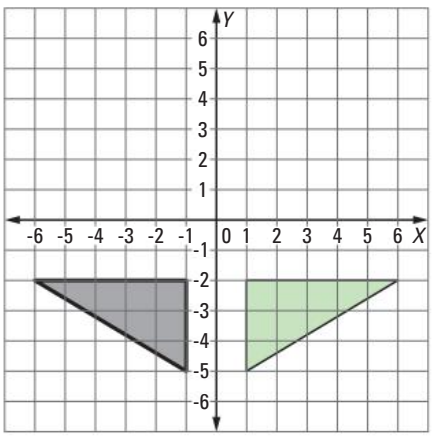
This net forms a cube when folded. Which letter is on the face opposite to letter F?



A

20. [Location / Transformation]

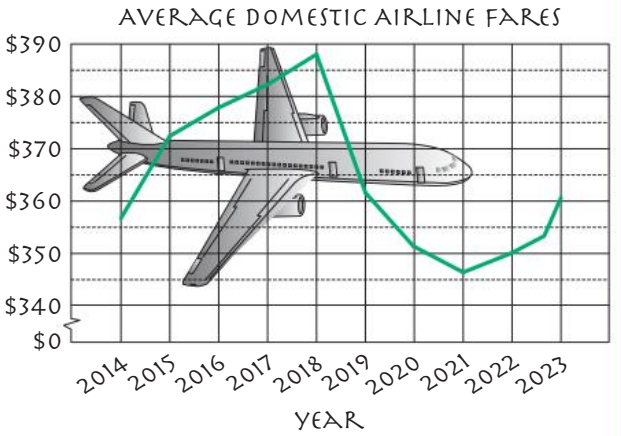
Redraw this shape after reflecting it in the *Y*-axis.



21. [Statistics / Probability]

What was the price difference of an average airline fare between the end of 2018 and the end of 2022?

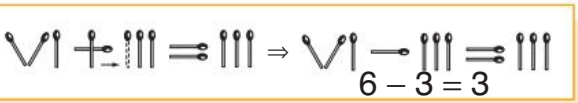
[Round to the nearest $10.]



$ 40

22. [Problem Solving 1]

Move one match to make this statement correct.



23. [Problem Solving 2] *

Which jam jar is the best value?

A) 350 g for $6.00

B) 800 g for $12.00

B

24. [Problem Solving 3]

Fill in the big square so that each row and each column contain the numbers 1, 2 and 3. The digits within each coloured area, when combined using the given operation, must equal the given number.

6,× 3	2	2,× 1
3,× 1	3	2
2	4,+ 1	3

MATHS MATE

Term 4 - Sheet 7

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	9	11	15	20	14	12	17	26	13	18
+ 6	15	17	21	26	20	18	23	32	19	24

2. [– Whole Numbers to 10]

	18	25	12	19	14	10	27	23	11	16
– 9	9	16	3	10	5	1	18	14	2	7

3. [× Whole Numbers to 10]

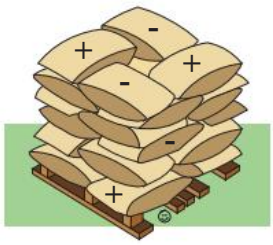
	3	5	8	2	7	1	10	6	4	9
× 3	9	15	24	6	21	3	30	18	12	27

4. [÷ Whole Numbers to 10]

	14	70	21	42	56	28	63	49	35	7
÷ 7	2	10	3	6	8	4	9	7	5	1

PLUS

The word **PLUS** is short for **SURPLUS**. Originally the symbol "+" was scrawled on boxes or sacks that were overweight and the symbol "–" on those which were underweight.



5. [Large Number +]

$$\begin{array}{r} 241 \\ 354 \\ 123 \\ +\ \ 32 \\ \hline 750 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 4824 \\ -\ \ 537 \\ \hline 4287 \end{array}$$

7. [Powers of 10 ×,÷]

$83\,000 \div 100 =$ **830**

8. [Large Number ×,÷]

$$\begin{array}{r} 18 \\ \times 57 \\ \hline 126 \\ 900 \\ \hline 1026 \end{array}$$

9. [Decimals]

$$\begin{array}{r} 4.98 \\ -\ 3.36 \\ \hline 1.62 \end{array}$$

10. [Fractions]

$\frac{3}{8} + \frac{4}{8} =$ $\frac{7}{8}$

11. [Decimals / Fractions / Percentages]

Write 0.75 as a percentage. **75 %**

12. [Place Value] *

Estimate the difference between 78 and 54 by rounding to the nearest ten before subtracting. **30**

13. [Operations] *

$(13 - 8) \times 3 =$ **15**

14. [Exploring Numbers] *

Which of the numbers 2, 3, 4, 5 and 7 are factors of 1995? **3, 5, 7**

15. [Number Patterns / Equations]

1, 3, 7, 13, 21, **31 , 43**

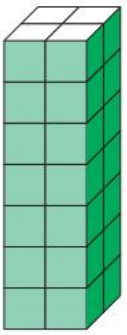
16. [Units of Measurement] *

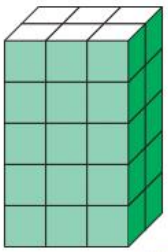
Circle the longest time.

1 h 1800 s 50 min

17. [Measuring]

Which prism has the greater volume?

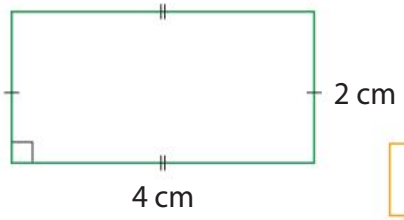
A) 

B) 

B

18. [Perimeter / Area]

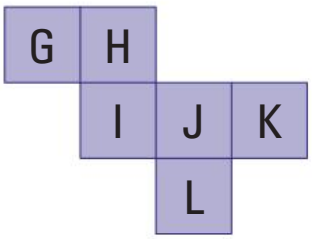
Find the perimeter of the rectangle.



12 cm

19. [Shapes]

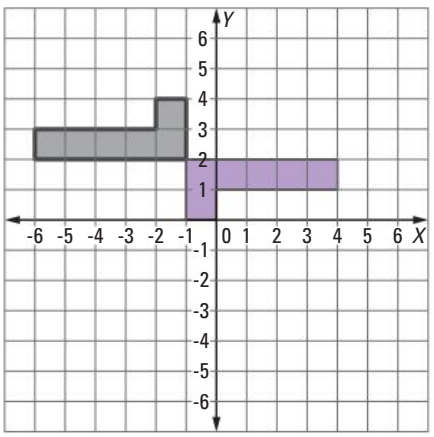
This net forms a cube when folded.
Which letter is on the face opposite to letter J?



G

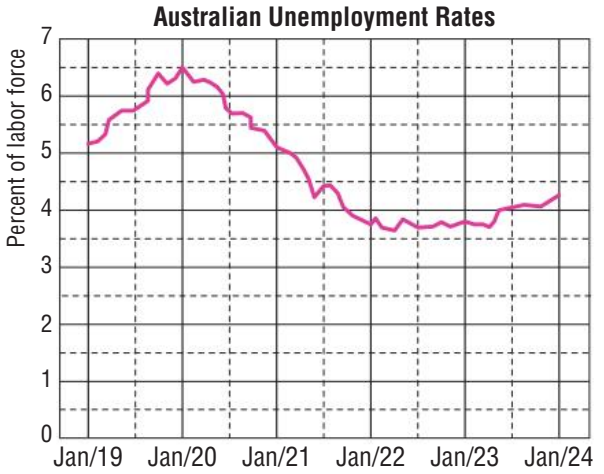
20. [Location / Transformation]

Redraw this shape after rotating it 180° around the point of coordinates (–1,2).



21. [Statistics / Probability]

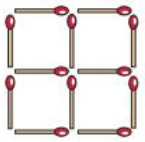
During which of the years shown did the Australian unemployment rate first fall below 4%?

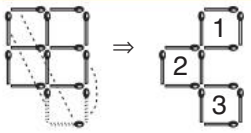


2021

22. [Problem Solving 1]

Move 3 matches to leave 3 squares.





Or any similar combinations

23. [Problem Solving 2] *

Which pack of pencils is the best value?

A) $5.60 for 8 pencils
B) $9 for 12 pencils

A

24. [Problem Solving 3]

Fill in the big square so that each row and each column contain the numbers 1, 2, 3 and 4. The digits within each coloured area, when combined using the given operation, must equal the given number.

8,× 1	4	7,+ 3	6,× 2
2	2,× 1	4	3
12,× 3	2	1	24,× 4
4	3	2	1

MATHS MATE

Term 4 - Sheet 8

YELLOW

Name: .....

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

Parent's Signature: .....

1. [+ Whole Numbers to 10]

	17	21	24	6	13	19	12	18	25	20
+ 7	24	28	31	13	20	26	19	25	32	27

2. [– Whole Numbers to 10]

	16	8	24	12	20	23	7	11	15	29
– 6	10	2	18	6	14	17	1	5	9	23

3. [× Whole Numbers to 10]

	7	5	6	4	1	8	2	9	10	3
× 9	63	45	54	36	9	72	18	81	90	27

4. [÷ Whole Numbers to 10]

	10	80	60	30	70	90	20	100	40	50
÷ 10	1	8	6	3	7	9	2	10	4	5

HOW FAR?

IT'S ONLY A MOO AWAY!

Long ago in India, the unit of measurement for distance was a cow's **MOO**. One moo was the point at which it could no longer be heard.

Not within a bull's roar!

5. [Large Number +]

$$\begin{array}{r} 316 \\ 480 \\ 6 \\ +\ 126 \\ \hline 928 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 2676 \\ -\ 298 \\ \hline 2378 \end{array}$$

7. [Powers of 10 ×,÷]

$52\,000 \div 1000 =$ **52**

8. [Large Number ×,÷]

$$\begin{array}{r} 17 \\ \times\ 74 \\ \hline 68 \\ 1190 \\ \hline 1258 \end{array}$$

9. [Decimals]

$$\begin{array}{r} 1.56 \\ -\ 0.75 \\ \hline 0.81 \end{array}$$

10. [Fractions]

$\frac{7}{10} - \frac{6}{10} =$ $\frac{1}{10}$

11. [Decimals / Fractions / Percentages]

Write 0.5 as a percentage. **50 %**

12. [Place Value] *

Estimate the product of 27 and 39 by rounding to the nearest ten before multiplying. **1200**

13. [Operations] *

$(21 - 14) \div 7 =$ **1**

14. [Exploring Numbers] *

Which of the numbers 2, 3, 4, 5, 6 and 10 are factors of 1050? **2, 3, 5, 6, 10**

15. [Number Patterns / Equations]

1, 7, 12, 16, 19, **21 , 22**

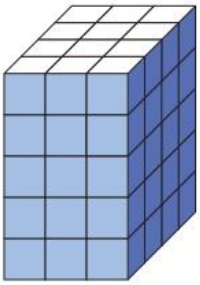
16. [Units of Measurement] *

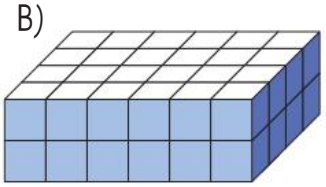
Circle the shortest time.

1500 s 300 min 4 h

17. [Measuring]

Which prism has the greater volume?

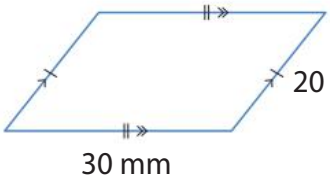
A) 

B) 

A

18. [Perimeter / Area]

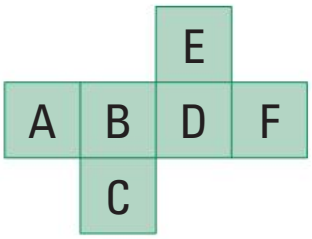
Find the perimeter of the parallelogram.



100 mm

19. [Shapes]

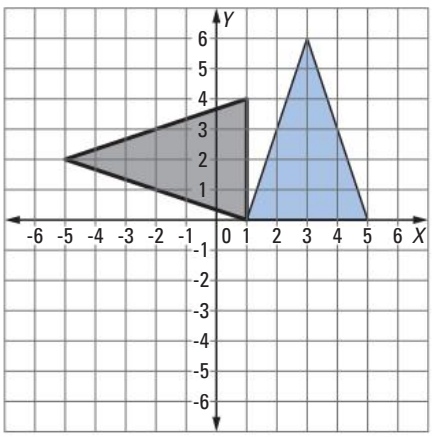
This net forms a cube when folded. Which letter is on the face opposite to letter A?



D

20. [Location / Transformation]

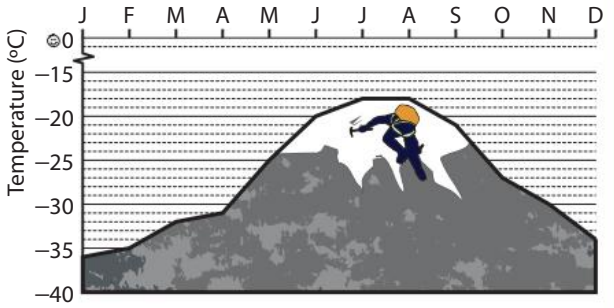
Redraw this shape after rotating it 90° anticlockwise around the point of coordinates (1,0).



21. [Statistics / Probability]

What is the greatest average monthly temperature on the summit of Mt Everest?

Average monthly temperatures - Mt Everest Summit



−18 °C

22. [Problem Solving 1]

Move one match to make this statement correct.

23. [Problem Solving 2] *

Which bag of dishwasher capsules is the best value?

A) $18 for 36 capsules

B) $30 for 50 capsules

A

24. [Problem Solving 3]

Fill in the big square so that each row and each column contain the numbers 1, 2, 3 and 4. The digits within each coloured area, when combined using the given operation, must equal the given number.

8,× 4	2	1	9,+ 3
6,+ 3	4,× 1	4	2
2	4	3,× 3	1
1	5,+ 3	2	4

MATHS MATE

Teacher Resource

MATHS MATE

Short Answers

1.1 - 1.4

1.1

1. 11,9,5,6,4, 8,10,7,3,12

2. 8,2,7,5,9, 4,6,1,10,3

3. 12,24,36,4,28, 8,40,20,16,32

4. 4,1,7,9,2, 3,10,5,6,8

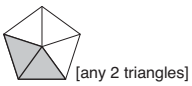
5. 67

6. 15

7. 350

8. 96

9. 29 hundredths = 0.29

10.  [any 2 triangles]

11. 10

12. tens

13. 9

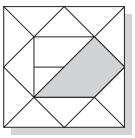
14. 805

15. 27, 32

16. metres

17. 50 mm (accept 45 to 55)

18. 12 cm

19. 

20. C

21. copper

22. 7

23.
$$\begin{array}{r} 1\,2\,0 \\ +\,\boxed{5}\,7\,\boxed{5} \\ \hline 6\,\boxed{9}\,5 \end{array}$$

24. 32

1.2

1. 11,12,9,13,7, 4,6,8,10,5

2. 2,5,4,9,3, 7,8,6,1,10

3. 20,12,8,10,4, 2,14,6,16,18

4. 5,2,1,10,3, 7,6,4,9,8

5. 474

6. 64

7. 2740

8. 84

9. 4 tenths = 0.4

10.  [any 3 flowers]

11. 100

12. units

13. false

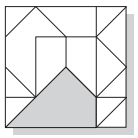
14. 517

15. 20, 23

16. litres

17. 9 cm (accept 8 to 10)

18. 10 cm

19. 

20. A

21. 0 - 14 years

22. 29

23.
$$\begin{array}{r} \boxed{3}\,6\,\boxed{6} \\ +\,4\,\boxed{3}\,2 \\ \hline 7\,9\,8 \end{array}$$

24. 37

CHALLENGE ANSWER:
Q: You'll find this little Mate ☺ on every sheet but one! The question is which one?
A: Term 3.5

1.3

1. 12,10,9,11,17, 8,15,16,13,14

2. 4,1,2,5,8, 10,7,9,3,6

3. 6,24,48,30,12, 60,18,42,54,36

4. 3,5,7,8,4, 9,10,2,6,1.

5. 6196

6. 643

7. 600

8. 686

9. 5 tenths + 7 hundredths = 0.57

10. $\frac{3}{8}$

11. 10

12. 3

13. 7

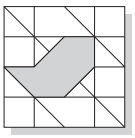
14. 4321

15. 39, 48

16. 3

17. 70 mm (accept 65 to 75)

18. 12 cm

19. 

20. B

21. breakfast foods

22. 20

23.
$$\begin{array}{r} \boxed{6}\,9\,6 \\ -\,5\,\boxed{2}\,4 \\ \hline 1\,7\,\boxed{2} \end{array}$$

24. ×, +

1.4

1. 8,12,9,11,5, 10,6,7,14,13

2. 10,5,4,8,3, 6,9,1,7,2

3. 27,3,12,21,6, 9,15,30,24,18

4. 7,4,5,1,9, 2,10,6,8,3

5. 937

6. 414

7. 13 820

8. 488

9. 8 tenths + 2 hundredths = 0.82

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

11. 40

12. 6

13. 3

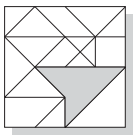
14. 9026

15. 39, 46

16. 2

17. 50 mm (accept 45 to 55)

18. 16 cm

19. 

20. A

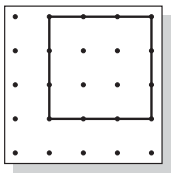
21. Europe

22. 31

23.
$$\begin{array}{r} 3\,\boxed{6}\,8 \\ -\,\boxed{1}\,4\,\boxed{5} \\ \hline 2\,2\,3 \end{array}$$

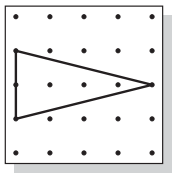
24. ×, –

1.5

1. 14,11,13,19,20, 15,18,12,16,17
2. 9,6,2,8,3, 5,10,4,1,7
3. 25,15,10,20,50, 5,40,45,30,35
4. 5,7,8,6,10, 9,2,1,4,3
5. 89
6. 55
7. 4
8. 30
9. 0.1
10. $\frac{1}{6}$
11. B
12. 70
13. 2
14. seventy-eight
15. 5
16. 100 cm
17. 45 mL
18. 15 mm
19. 
20. Bartlett
21. 7 hours
22. 11
23. 5 hours
24.

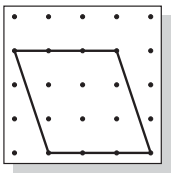
5	−	2	=	3
+		−		+
3	+	1	=	4
=		=		=
8	−	1	=	7

1.6

1. 6,13,10,4,7, 5,12,11,8,9
2. 1,6,5,7,8, 10,4,3,2,9
3. 4,8,5,7,1, 6,2,3,10,9
4. 2,8,3,6,10, 9,7,4,5,1
5. 96
6. 425
7. 27
8. 13
9. 4.9
10. $\frac{3}{5}$
11. C
12. 200
13. false
14. two hundred and fourteen
15. 8
16. 1 kg
17. 92 km/h
18. 2.5 cm
19. 
20. B1
21. B
22. 14
23. 13 hours
24.

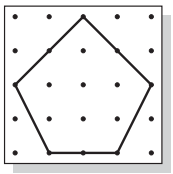
8	÷	2	=	4
×		÷		×
2	×	2	=	4
=		=		=
16	÷	1	=	16

1.7

1. 9,6,8,14,15, 10,13,7,11,12
2. 3,10,4,7,9, 5,2,8,6,1
3. 24,40,4,12,28, 16,20,32,8,36
4. 5,2,1,10,3, 7,6,4,9,8
5. 699
6. 465
7. 98
8. 21
9. 0.05
10. $\frac{3}{4}$
11. 0.53
12. A
13. 5
14. six hundred and nine
15. 14
16. 1000 mL
17. 16°C
18. 8 cm
19. 
20. A2
21. 4
22. 25
23. 9
24.

80	+	10	=	90
−		+		−
50	−	40	=	10
=		=		=
30	+	50	=	80

1.8

1. 17,18,15,19,13, 10,12,14,16,11
2. 1,9,7,2,3, 4,5,10,8,6
3. 27,18,6,24,21, 9,12,30,3,15
4. 4,1,3,5,7, 2,8,9,6,10
5. 8888
6. 2322
7. 33
8. 32
9. 0.23
10. $\frac{2}{3}$
11. 0.263
12. A
13. 6
14. nine hundred and thirty
15. 13
16. 10 mm
17. 84 kg
18. 6 cm
19. 
20. D3
21. Lionel Messi
22. 23
23. 17 min
24.

4	×	8	=	32
×		×		+
8	×	2	=	16
=		=		=
32	+	16	=	48

2.1

1. 14,15,9,10,7, 8,12,11,13,6

2. 6,10,3,11,8, 7,4,9,12,5

3. 72,56,24,48,8, 64,32,40,16,80

4. 5,2,9,10,1, 6,7,4,8,3

5. 661

6. 65

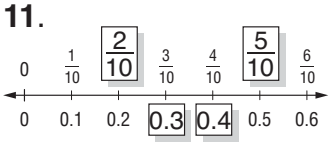
7. 4900

8. 78

9. 3.2 cm

10. B and C

11.



12. 5454

13. false

14. 70 800

15. 9, 7

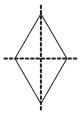
16. 8 m

17. equal to

18. 4

19. 4

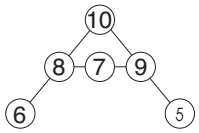
20. 2



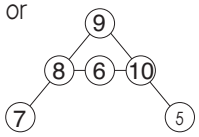
21. 140 calories

22. 5

23.



or



24. 56

2.2

1. 16,11,17,18,15, 19,13,10,12,14

2. 2,10,8,3,6, 9,4,1,5,7

3. 20,5,15,25,35, 10,40,45,30,50

4. 4,1,3,5,7, 2,8,9,6,10

5. 93

6. 36

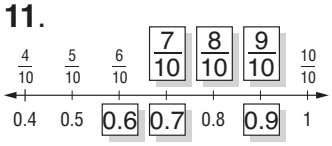
7. 3200

8. 85

9. 1.1 m

10. $\frac{6}{6}$

11.



12. false

13. true

14. 900 000

15. 7, 3

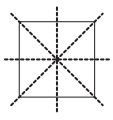
16. 6000 m

17. greater than

18. 6

19. 6

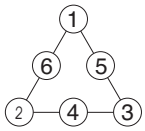
20. 4



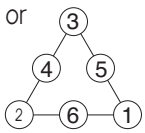
21. 27

22. 6

23.



or



24. 6

2.3

1. 15,13,14,12,11, 9,10,7,8,16

2. 8,5,6,10,7, 12,11,4,3,9

3. 40,28,8,20,16, 24,4,32,12,36

4. 3,6,8,4,1, 7,5,10,2,9

5. 553

6. 42

7. 65 300

8. 132

9.

10. $\frac{1}{3}$

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

12. 175, 157, 155, 150, 107

13. 5

14. eight thousand, six hundred

15. 7, 1

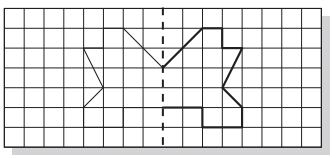
16. 5000 mm

17. less than

18. 9

19. 10

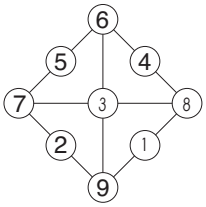
20.



21. Hong Kong

22. 5

23.



24. 16

2.4

1. 11,15,12,9,10, 14,18,17,16,13

2. 3,10,11,9,5, 7,4,8,2,6

3. 9,21,18,30,6, 12,27,15,24,3

4. 5,7,1,10,2, 9,6,4,3,8

5. 785

6. 54

7. 70 800

8. 266

9.

10. $\frac{5}{8}$

11. $\frac{3}{5}$

12. 2131, 2311, 2313, 2331

13. 1

14. two thousand and nine

15. 10, 2

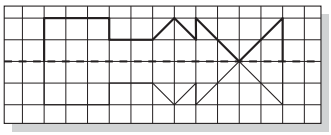
16. 3 cm

17. equal to

18. 11

19. 7

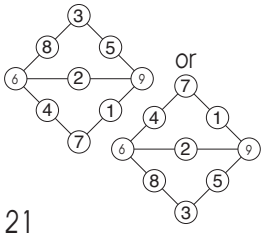
20.



21. 300 000

22. 4

23.



24. 21

2.5

1. 13,11,10,12,18, 9,16,17,14,15

2. 9,10,17,11,15, 12,14,16,8,13

3. 70,10,40,20,90, 80,50,60,30,100

4. 1,8,9,3,7, 6,5,10,4,2

5. 682

6. 48

7. 8

8. 100

9. $5.00

10. $1\frac{3}{4}$

11. $\frac{37}{100}$

12. 2.94

13. 13

14. 14

15. 14

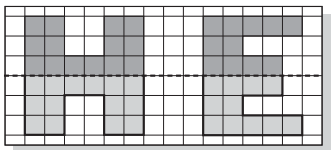
16. 7000 g

17. A) 11:45 AM
B) 11:45

18. 12 cm^2

19. D

20.

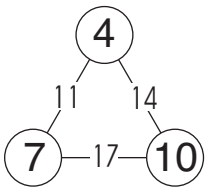


21. both

22. 14 kg

23. 8

24.



2.6

1. 14,12,13,11,8, 15,9,16,17,10

2. 10,5,7,4,11, 6,3,8,9,12

3. 4,7,9,1,3, 6,10,8,5,2

4. 3,10,2,7,5, 8,4,1,9,6

5. 892

6. 27

7. 94

8. 2000

9. $0.36

10. $2\frac{2}{3}$

11. $\frac{7}{10}$

12. 6.03

13. 5

14. 19, 17, 15, 13

15. 8

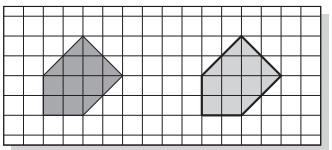
16. 4 t

17. A) 4:35 PM
B) 16:35

18. 9 cm^2

19. C

20.

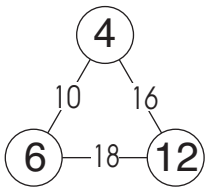


21. 7

22. 2 kg

23. 13

24.



2.7

1. 13,14,5,10,11, 8,12,7,9,6

2. 5,10,7,4,11, 3,2,9,8,6

3. 18,54,90,9,27, 81,63,36,45,72

4. 8,5,1,7,9, 3,6,4,2,10

5. 7254

6. 34

7. 22

8. 121

9. $2.25

10. $3\frac{1}{4}$

11. $\frac{1}{100}$

12. 2.097

13. 18

14. 7412

15. 13

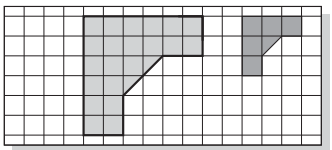
16. 3000 kg

17. A) 6:15 AM
B) 06:15

18. 13 cm^2

19. A

20.

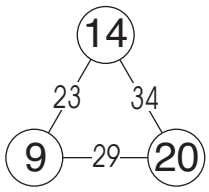


21. 6

22. 4 kg

23. 10

24.



2.8

1. 10,7,9,15,16, 11,14,8,12,13

2. 8,3,5,2,9, 10,1,6,7,4

3. 20,10,8,16,4, 18,14,6,12,2

4. 6,5,2,7,3, 9,10,4,8,1

5. 87

6. 566

7. 315

8. 3421

9. $0.80

10. $2\frac{2}{5}$

11. $\frac{29}{100}$

12. 1.508

13. 8

14. 5687

15. 23

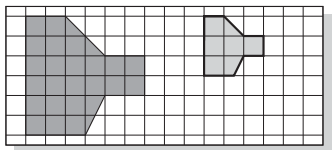
16. 15 kg

17. A) 1:45 PM
B) 13:45

18. 11 cm^2

19. C

20.

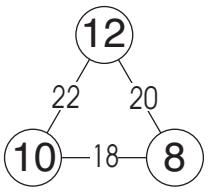


21. 12

22. 1600 g

23. 16

24.



3.1

1. 16,17,23,19,21, 22,20,28,24,15

2. 4,17,9,5,10, 6,22,8,11,3

3. 54,18,9,27,90, 36,63,72,45,81

4. 10,3,7,1,6, 4,9,5,2,8

5. 419

6. 58

7. 38 000

8. 1480

9. A and C

10. $\frac{4}{6}$ or $\frac{2}{3}$

11. 5.8

12. 4

13. 19

14. 16, 20

15. 32, 64

16. 4000 mL

17. 24

18. 8

19. B

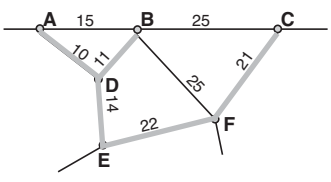
20. (5,4)

21. C

22. 9

23.
$$\begin{array}{r} 6\,\boxed{7} \\ +\,\boxed{2}\,9 \\ \hline 9\,6 \end{array}$$

24. 78 km



3.2

1. 12,16,20,24,17, 25,19,13,21,18

2. 1,8,19,7,2, 5,3,10,14,6

3. 21,49,42,28,63, 56,35,14,7,70

4. 7,3,5,1,4, 10,8,6,2,9

5. 119

6. 138

7. 19 000

8. 3440

9. C and D

10. $\frac{7}{7}$ or 1

11. 2.1

12. 9

13. 13

14. 9

15. 81, 243

16. 9 L

17. 36

18. 14

19. C

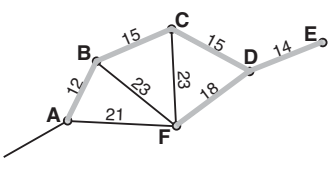
20. (3,4)

21. B

22. 10

23.
$$\begin{array}{r} 1\,6\,\boxed{4} \\ 5\,5\,5 \\ +\,\boxed{2}\,4\,9 \\ \hline 9\,\boxed{6}\,8 \end{array}$$

24. 74 km



3.3

1. 15,13,17,21,19, 22,16,20,18,14

2. 10,1,8,9,16, 17,5,3,12,4

3. 42,30,60,36,24, 12,48,6,54,18

4. 4,7,1,9,10, 3,5,8,6,2

5. 8636

6. 525

7. 545 000

8. 2540

9. B and D

10. $\frac{2}{8}$ or $\frac{1}{4}$

11. 4.75

12. $\frac{5}{10}$ or 0.5

13. 9

14. 5

15. 6, 3

16. 12 L

17. 36 cm^3

18. 19

19. A

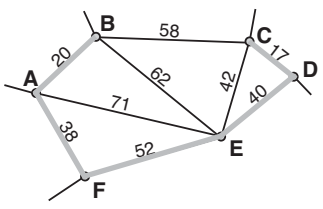
20. (8,1)

21. A

22. 8

23.
$$\begin{array}{r} 8\,\boxed{0}\,6 \\ -\,\boxed{3}\,7\,5 \\ \hline 4\,3\,\boxed{1} \end{array}$$

24. 167 km



3.4

1. 13,20,11,19,17, 14,18,16,12,15

2. 10,6,3,7,14, 9,18,1,22,25

3. 50,20,30,5,40, 45,10,25,35,15

4. 10,6,3,5,9, 2,7,4,1,8

5. 345

6. 426

7. 70 000

8. 5418

9. A and B

10. $\frac{9}{10}$

11. 1.17

12. $\frac{8}{100}$ or 0.08

13. 14

14. 25, 30

15. 40, 8

16. 36 000 mL

17. 60 cm^3

18. 23

19. C

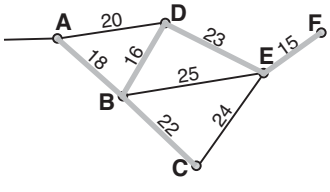
20. pel = (6,1) fish = (4,3)

21. C

22. 16

23.
$$\begin{array}{r} 6\,3\,\boxed{8} \\ 1\,5\,8 \\ +\,1\,\boxed{2}\,8 \\ \hline \boxed{9}\,2\,4 \end{array}$$

24. 94 km



3.5

1. 20,19,16,13,11, 18,17,15,14,12

2. 13,11,9,7,16, 10,4,8,25,12

3. 28,35,14,63,49, 21,56,7,70,42

4. 8,3,7,6,5, 10,4,1,2,9

5. 127

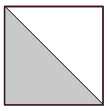
6. 435

7. 6

8. 21

9. $7.75

10. $\frac{4}{6} > \frac{3}{6}$

11. 

12. 3.87

13. 5

14. 2

15. 12

16. 300 s

17. 8:15 pm or 20:15

18. 6 cm^2

19. C

20. Last Chance

21. A

22.

+	4	5	6
2	6	7	8
3	7	8	9
4	8	9	10

23. 50

24. ABC = 183

3.6

1. 21,22,26,19,23, 17,18,20,25,24

2. 8,13,4,15,6, 1,19,7,12,10

3. 40,30,25,15,20, 5,10,50,45,35

4. 4,1,9,5,7, 2,8,3,6,10

5. 5747

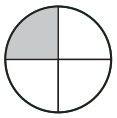
6. 877

7. 3

8. 92

9. $6.90

10. $\frac{7}{8}$

11. 

12. 0.71

13. 11

14. 9

15. 20

16. 420 min

17. 8:02 am or 08:02

18. 8 cm^2

19. B

20. B

21. B

22.

+	2	4	6
4	6	8	10
6	8	10	12
8	10	12	14

23. 25

24. ABC = 721

3.7

1. 20,22,28,25,26, 19,24,23,21,27

2. 9,20,12,21,6, 24,13,5,18,7

3. 30,54,36,42,18, 6,60,24,12,48

4. 3,8,1,4,6, 7,2,10,5,9

5. 4848

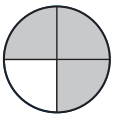
6. 751

7. 87

8. 30

9. $5.20

10. $\frac{5}{7} < \frac{5}{6}$

11. 

12. 3.2,3.1,3,2.3,2.1,1.3

13. 5

14. 9

15. 30

16. 4 min

17. 8:00 am or 08:00

18. 7 cm^2

19. C

20. Vancouver (2,3)

21. B

22.

+	5	6	7
9	14	15	16
7	12	13	14
5	10	11	12

23. 113

24. ABCD = 2456

3.8

1. 29,21,25,20,24, 22,27,23,16,28

2. 6,27,14,13,18, 12,19,1,15,20

3. 4,32,20,40,8, 36,16,24,28,12

4. 7,10,4,9,3, 5,2,6,1,8

5. 9339

6. 613

7. 26

8. 700

9. $6.20

10. $\frac{4}{5} > \frac{4}{9}$

11. 

12. 5.07,5.7,7,7.05,7.5

13. 8

14. 6, 8, 9

15. 5

16. 3 h

17. 22:20

18. 11 cm^2

19. A

20. Perth (–3,–1)

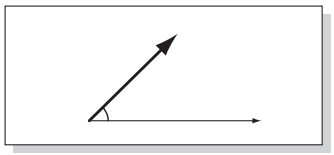
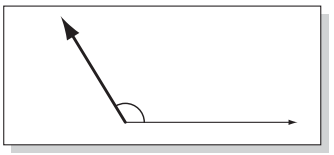
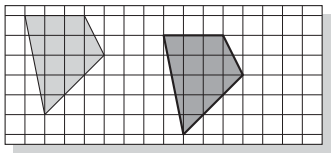
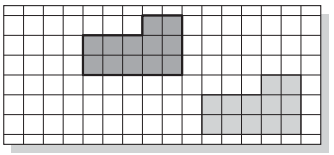
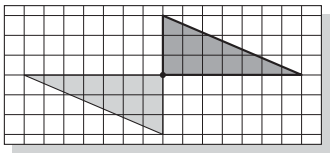
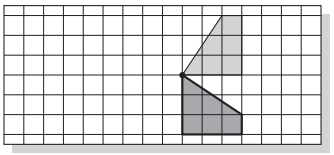
21. A

22.

+	7	1	6
6	13	7	12
1	8	2	7
7	14	8	13

23. 33

24. ABCDE = 72 305

	4.1	4.2	4.3	4.4
1.	19,25,18,21,33, 14,30,32,26,27	13,27,26,35,18, 21,20,34,32,19	23,18,22,36,24, 27,31,25,30,19	14,19,13,15,32, 26,20,17,28,31
2.	11,16,8,5,12, 23,14,9,20,7	4,13,7,11,6, 8,19,5,12,10	17,11,5,20,23, 2,9,18,6,24	32,9,10,24,8, 7,6,11,15,3
3.	56,64,16,32,80, 8,24,72,40,48	100,60,40,50,20, 10,70,30,80,90	14,35,70,63,49, 28,7,42,21,56	81,9,72,54,45, 18,36,63,27,90
4.	6,3,10,2,1, 5,7,8,4,9	8,10,3,2,9, 5,7,1,6,4	8,5,1,7,3, 10,9,4,6,2	10,4,7,1,5, 9,3,2,8,6
5.	511	1622	6715	8948
6.	296	286	187	278
7.	2800	6000	43 000	50 000
8.	918	1584	938	1080
9.	$1.35	$1.60	$1.25	$8.95
10.	$\frac{2}{3} = \frac{4}{6}$	$\frac{6}{8} = \frac{3}{4}$	$\frac{8}{10} = \frac{4}{5}$	$\frac{2}{4} = \frac{3}{6}$
11.	25%	100%	5%	10%
12.	300	4950	7	6
13.	0	5	9	1
14.	$12 = 3 \times 4$	$30 = 2 \times 3 \times 5$	$40 = 2 \times 4 \times 5$	$48 = 2 \times 3 \times 8$
15.	8	6	40	63
16.	49 kg	50 000 mL	1300 mm	8000 kg
17.			115°	75°
18.	B	A	C	A
19.	5	8	9	8
20.				
21.	A	blue	gold	B
22.	$80	$6.50	$49	$13.80
23.	23	1	8	16
24.	356	486	325	564

4.5

1. 31,20,33,24,22, 19,25,28,16,27

2. 4,1,17,6,5, 23,9,10,8,22

3. 48,80,8,40,64, 24,72,56,32,16

4. 8,2,10,4,9, 7,3,6,5,1

5. 6724

6. 275

7. 70

8. 1768

9. 9.01

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

11. 0.25

12. 100

13. 21

14. 2, 3, 6

15. 16, 22

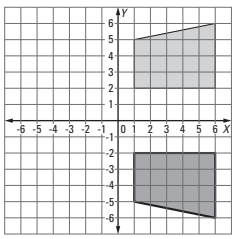
16. 3 h 3000 s (300 min)

17. A

18. 12 cm

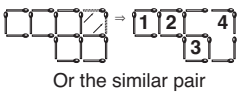
19. W

20.

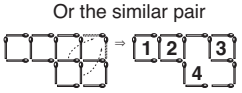


21. 36 years

22.



Or the similar pair



23. B

24.

12× 3	2	6+ 1
2	4+ 1	3
1	3	2

4.6

1. 23,28,9,15,20, 24,26,17,11,22

2. 10,7,18,6,4, 22,11,5,9,13

3. 30,6,42,60,24, 12,54,48,18,36

4. 5,2,1,10,3, 6,7,4,9,8

5. 7837

6. 354

7. 40

8. 2542

9. 7.33

10. $\frac{1}{6}$

11. 0.1

12. 120

13. 5

14. 2, 5

15. 26, 37

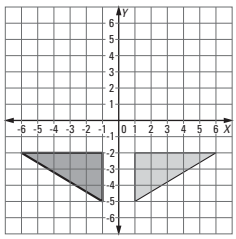
16. 3 months 100 days (15 weeks)

17. B

18. 16 cm

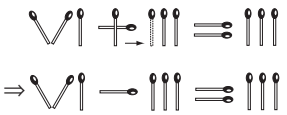
19. A

20.



21. $40

22.



6 – 3 = 3

23. B

24.

6× 3	2	2× 1
3× 1	3	2
2	4+ 1	3

4.7

1. 15,17,21,26,20, 18,23,32,19,24

2. 9,16,3,10,5, 1,18,14,2,7

3. 9,15,24,6,21, 3,30,18,12,27

4. 2,10,3,6,8, 4,9,7,5,1

5. 750

6. 4287

7. 830

8. 1026

9. 1.62

10. $\frac{7}{8}$

11. 75%

12. 30

13. 15

14. 3, 5, 7

15. 31, 43

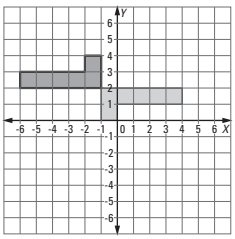
16. (1 h) 1800 s 50 min

17. B

18. 12 cm

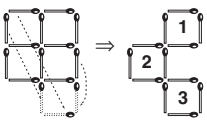
19. G

20.



21. 2021

22.



Or any similar combinations

23. A

24.

8× 1	4	7+ 3	6× 2
2	2× 1	4	3
12× 3	2	1	24× 4
4	3	2	1

4.8

1. 24,28,31,13,20, 26,19,25,32,27

2. 10,2,18,6,14, 17,1,5,9,23

3. 63,45,54,36,9, 72,18,81,90,27

4. 1,8,6,3,7, 9,2,10,4,5

5. 928

6. 2378

7. 52

8. 1258

9. 0.81

10. $\frac{1}{10}$

11. 50%

12. 1200

13. 1

14. 2, 3, 5, 6, 10

15. 21, 22

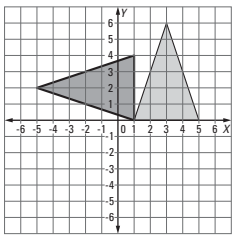
16. (1500 s) 300 min 4 h

17. A

18. 100 mm

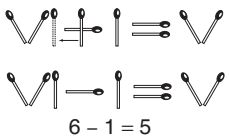
19. D

20.



21. –18°C

22.



6 – 1 = 5

23. A

24.

8× 4	2	1	9+ 3
6+ 3	4× 1	4	2
2	4	3× 3	1
1	5+ 3	2	4

MATHS MATE

Teacher Resource

A Teacher's Guide to approaching

PROBLEM SOLVING

Dear Educator

The following Problem Solving Hints & Solutions have been designed to support users of the Maths Mate Program.

The Maths Mate problem solving questions at each level have proved challenging for many.

Within these Hints & Solutions only one or two alternative strategies have been presented to show how the problem may be solved. Often many other approaches are both practical and possible; after all, "the human race has not really started to 'think'." - Edward De Bono

Outlined on this page is a general problem solving approach that may help you to develop the problem solving skills of your students.

Inevitably, students are more likely to be successful if they:

- *have the courage to try,*
- *can find a place to start and*
- *have approach options to choose from.*

Best wishes
The Maths Mate Team

FIRST:

* Accept the challenge.
* Read the problem.
* Read the problem out loud.

THEN:

* Find out the meaning of any unknown terms.
* Highlight the essential truths.
* Restate the problem in your own words.
* Break the problem up into parts.

BE SURE ABOUT:

* What you know from the problem. (Given)
* What you need to find out. (Goal)

CHOOSE YOUR SOLUTION STRATEGY/STRATEGIES:

1. Write a numerical sentence deciding which operations to use, given the word statements.
2. Look for a pattern then make and test generalisations that describe the relationship between variables.
3. Draw a diagram: sketch
   table
   graph
   number line
   OR Make a model.
4. Simplify the problem and work on a reduced version. Extrapolate back to the original problem.
5. Be systematic. Make a list. Progress step by step.
6. Work backwards if you have the answer.
7. Use trial and error. Estimate, check against the facts and then refine your estimation.

WHERE TO START:

* Start: with what is known
  with an odd or distinctive feature
  with the smallest
  with the easiest.

FINALLY:

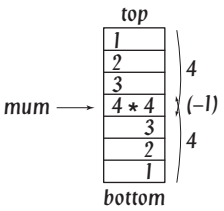
* Double check your answer against the original statements. Does your answer satisfy all the conditions of the problem?

PRESENTATION:

* Choose suitable modes of communication to present and explain your outcomes and results.

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.



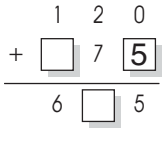
23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:

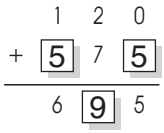
Units 0 + ? = 5
0 + 5 = 5
Write in the 5.

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:

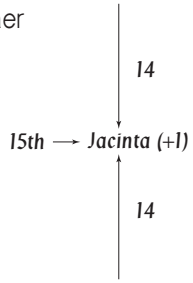




24. **Hint:** Add the numbers you are given first. Use trial and error.
Solution:
13 + ? + 35 = 80
Add 13 and 35 first: 13 + 35 = 48
The expression becomes:
48 + ? = 80
Ask: "What number, added to 48, makes 80?" OR "80 take away 48 leaves what number?"
Answer: "80 – 48 = 32"
The missing number is **32**.

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.



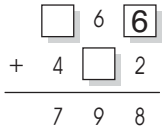
23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:

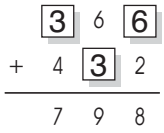
Units ? + 2 = 8
6 + 2 = 8
Write in the 6.

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:

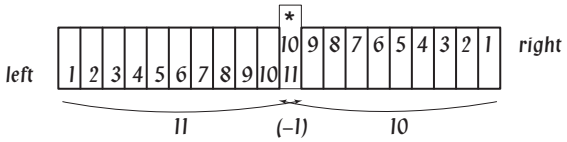




24. **Hint:** Add the numbers you are given first. Use trial and error.
Solution:
45 – ? + 20 = 28
Add 45 and 20 first: 45 + 20 = 65
The expression becomes:
65 – ? = 28
Ask: "What number, subtracted from 65, makes 28?" OR "28 added to what number makes 65?"
Answer: "65 – 28 = 37"
The missing number is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

1.3

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.



23. **Hint:** Complete what is given. Work from right to left. Use trial and error.
Solution:
Units 6 – 4 = 2
Write in the 2.

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:

	□	9	6
–	5	□	4
	1	7	2

	6	9	6
–	5	2	4
	1	7	2

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

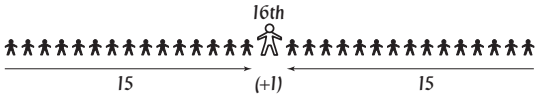
0 □ 8 □ 8 = 8

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 × 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 × 8 + 8 = 8

1.4

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.



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.

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:

	3	□	8
–	□	4	5
	2	2	3

	3	6	8
–	1	4	5
	2	2	3

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

6 □ 8 □ 2 = 46

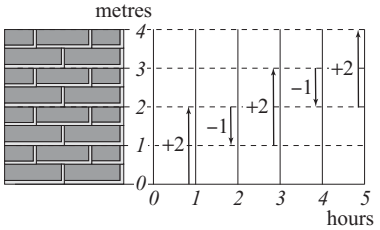
Consider that 6 × 8 = 48 is the first operation from the left.
Ask: "What operation links 48 and 2 to get 46?"
Answer: "Subtraction."
In fact 48 – 2 = 46
Try these operations in the equation.
The missing operations are:

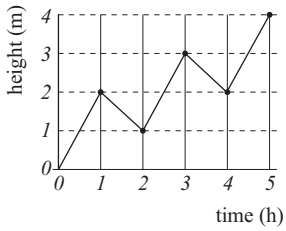
6 × 8 – 2 = 46

1.5

22. **Hint:** Make a list. [Assume the die has the numbers 1 to 6 on its faces.]
Solution: The numbers 1, 4 and 5 are visible, therefore the hidden faces must display the numbers 2, 3 and 6.
'Sum' means addition.
2 + 3 + 6 = 11
The sum of the numbers on the three hidden faces of the die is **11**.

23. **Hint:** Draw a diagram to show the movement of the snail, one hour at a time. OR Draw a graph.
Solution:





At the end of **5** hours the snail will reach the top of the wall.

24. **Hint:** Begin with any row or column that has only one unknown number.
Solution: Start with the bottom row.
8 – 1 = ?
8 – 1 = 7 Fill in the 7.

Try the middle column.
? – 1 = 1
2 – 1 = 1 Fill in the 2.

	–	2	=	3
+		–		+
	+	1	=	
=		=		=
8	–	1	=	7

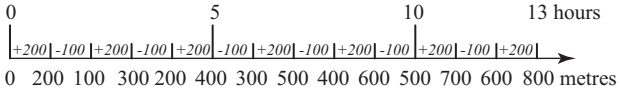
Continue in this way until the correct equations are filled as shown:

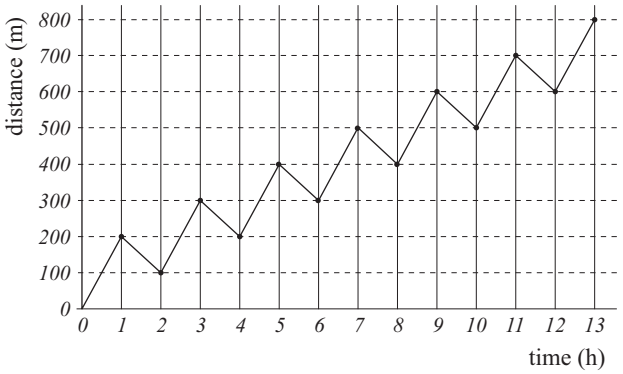
5	–	2	=	3
+		–		+
3	+	1	=	4
=		=		=
8	–	1	=	7

1.6

22. **Hint:** Make a list. [Assume the die has the numbers 1 to 6 on its faces.]
Solution: The numbers 1, 2 and 4 are visible, therefore the hidden faces must display the numbers 3, 5 and 6.
'Sum' means addition.
3 + 5 + 6 = 14
The sum of the numbers on the three hidden faces of the die is **14**.

23. **Hint:** Use a number line to show the movement of the car, one hour at a time. OR Draw a graph.
Solution:





At the end of **13** hours Mr. Bean will reach the top of the hill.

24. **Hint:** Begin with any row or column that has only one unknown number.
Solution: Start with the top row.
8 ÷ 2 = ?
8 ÷ 2 = 4 Fill in the 4.

Try the right column.
4 × ? = 16
4 × 4 = 16 Fill in the 4.

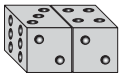
8	÷	2	=	4
×		÷		×
	×		=	4
=		=		=
	÷	1	=	16

Continue in this way until the correct equations are filled as shown:

8	÷	2	=	4
×		÷		×
2	×	2	=	4
=		=		=
16	÷	1	=	16

1.7

22. **Hint:** Make a list. [Assume each die has the numbers 1 to 6 on its faces.]
Solution: On the left die, the numbers 2, 3 and 6 are visible, therefore the hidden faces must display the numbers 1, 4 and 5.
On the right die, the numbers 2 and 4 are visible, therefore the hidden faces must have the numbers 1, 3, 5 and 6.
'Sum' means addition.



Left die: $1 + 4 + 5 = 10$
Right die: $1 + 3 + 5 + 6 = 15$
Both dice: $10 + 15 = 25$
The sum of the numbers on the seven hidden faces of the dice is **25**.

23. **Hint:** Draw a table to show the run rate, one over at a time.
Solution:

Over	Runs	Total
0		0
1	+7	7
2	−5	2
3	+7	9
4	−5	4
5	+7	11
6	−5	6
7	+7	13
8	−5	8
9	+7	15

The indoor cricket team took **9** overs to reach 15 runs.

24. **Hint:** Begin with any row or column that has only one unknown number.
Solution: Start with the middle row.
$50 - ? = 10$
$50 - 40 = 10$ Fill in the 40.

Try the right column.
$? - 10 = 80$
$90 - 10 = 80$ Fill in the 90.

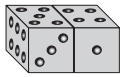
	+	10	=	90
−	■	+	■	−
50	−	40	=	10
=	■	=	■	=
	+		=	80

Continue in this way until the correct equations are filled as shown:

80	+	10	=	90
−	■	+	■	−
50	−	40	=	10
=	■	=	■	=
30	+	50	=	80

1.8

22. **Hint:** Make a list. [Assume each die has the numbers 1 to 6 on its faces.]
Solution: On the left die, the numbers 3, 5 and 6 are visible, therefore the hidden faces must display the numbers 1, 2 and 4.
On the right die, the numbers 1 and 4 are visible, therefore the hidden faces must have the numbers 2, 3, 5 and 6.
'Sum' means addition.



Left die: $1 + 2 + 4 = 7$
Right die: $2 + 3 + 5 + 6 = 16$
Both dice: $7 + 16 = 23$
The sum of the numbers on the seven hidden faces of the dice is **23**.

23. **Hint:** Draw a table to show the wins and losses, one minute at a time.
Solution:

Time (min)	Win/Loss	Total ($)
0		21
1	−5	16
2	+3	19
3	−5	14
4	+3	17
5	−5	12
6	+3	15
7	−5	10
8	+3	13
9	−5	8
10	+3	11
11	−5	6
12	+3	9
13	−5	4
14	+3	7
15	−5	2
16	+3	5
17	−5	0

The gambler takes **17** minutes to lose his $21.

24. **Hint:** Begin with any row or column that has only one unknown number.
Solution: Start with the top row.
$4 \times ? = 32$
$4 \times 8 = 32$ Fill in the 8.

Try the right column.
$32 + ? = 48$
$32 + 16 = 48$ Fill in the 90.

4	×	8	=	32
×	■	×	■	+
	×	2	=	16
=	■	=	■	=
	+		=	48

Continue in this way until the correct equations are filled as shown:

4	×	8	=	32
×	■	×	■	+
8	×	2	=	16
=	■	=	■	=
32	+	16	=	48

2.1

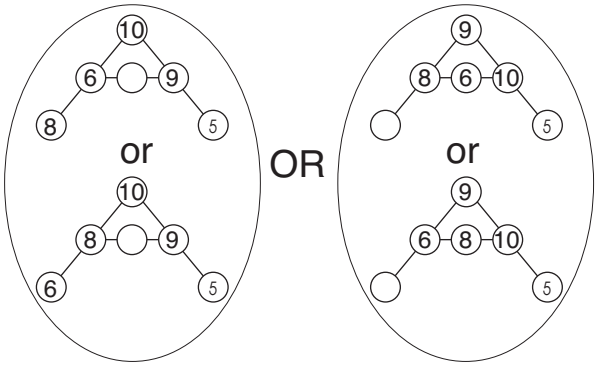
22. **Hint:** Count by 11's and make a list of all the results between 1 and 60.
Solution: $60 \div 11 = 5$ and 5 remainder.

$11 \times 1 = 11$
$11 \times 2 = 22$
$11 \times 3 = 33$
$11 \times 4 = 44$
$11 \times 5 = 55$
$11 \times 6 = 66$

So **5** numbers between 1 and 60 are divisible by 11.

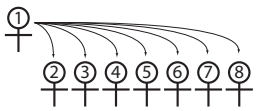
23. **Hint:** Use trial and error. Try any reasonable guess in the line that includes 5. Observe your results.
Which two numbers, when added to 5, will make a sum of 24?
Solution:
$5 + ? = 24$
$5 + 19 = 24$
Of the numbers 6, 7, 8, 9 and 10, only 9 and 10 add to 19 and make a sum of 24 on the line that includes 5.
Fill the diagram with what is known.

Try the line that includes 10:
$10 + ? = 24$
$10 + 14 = 24$
Of the numbers 6, 7 and 8, only 6 and 8 add to 14 and together make a sum of 24.
Fill in the diagram with what is known.



Try the lines that include the 9:
$9 + 8 + ? = 24$ or
$9 + 6 + ? = 24$
Of the available numbers, only 7 remains so
$9 + 8 + 7 = 24$ is true.
The line with 9 and 6 doesn't work, because
$9 + 6 + 9 = 24$ is not possible.
Two diagrams are possible:

24. **Hint:** Draw a diagram. Consider what happens for only one of the friends.
Solution:



Any one of the friends would give cards to 7 people. If there are 8 friends then there would be 8 lots of 7 cards given.
$8 \times 7 = 56$
So **56** cards were exchanged.

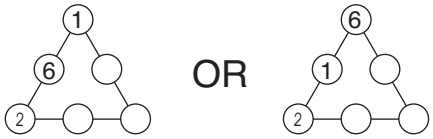
2.2

22. **Hint:** Count by 9's and make a list of all the results between 1 and 60.
Solution: $60 \div 9 = 6$ and 6 remainder.

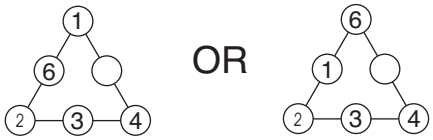
$9 \times 1 = 9$
$9 \times 2 = 18$
$9 \times 3 = 27$
$9 \times 4 = 36$
$9 \times 5 = 45$
$9 \times 6 = 54$
$9 \times 7 = 63$

So **6** numbers between 1 and 60 are divisible by 9.

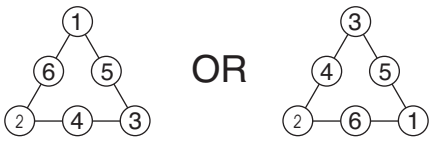
23. **Hint:** Use trial and error. Try any reasonable guess in the line that includes 2. Observe your results.
Which two numbers, when added to 2, will make a sum of 9?
Solution:
$2 + ? + ? = 9$ so $? + ? = 7$
Of the possible numbers only $6 + 1$ and $3 + 4$ add to 7.
Try $6 + 1$:



That leaves only $3 + 4$ to go in the horizontal line.
Including $3 + 4$:

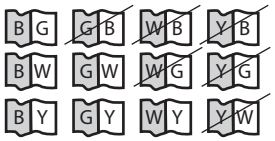


The remaining number to be included is 5.
$1 + 5 + 4 = 10$ and $6 + 5 + 4 = 14$ are not the results we want.
But by switching 3 and 4 you get $1 + 5 + 3 = 9$ which is correct. The second diagram doesn't work.
Two different diagrams are possible:



2.2 (cont.)

24. **Hint:** Draw a diagram. Remember to exclude any double ups.
Solution:

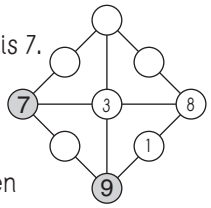


Blue could combine with any of 3 other colours on the banner. At first glance the green would also have 3 colour combination options BUT 1 of these pairs would have already been used so there are only 2. Similarly white would have only 1 colour option as 2 of these pairs would have already been used. Finally, yellow is totally accounted for.
In fact the options are $3 + 2 + 1 = 6$
So there are **6** classes in the school.

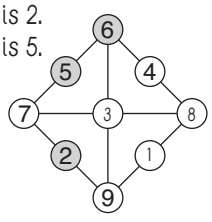
2.3

22. **Hint:** Count by 8's and make a list of all the results between 17 and 61.
Solution: $61 \div 8 = 7$ and 5 remainder.
$17 \div 8 = 2$ and 1 remainder.
To exclude the numbers beyond these limits you can subtract 2 from 7.
$8 \times 1 = 8$
$8 \times 2 = 16$
$8 \times 3 = 24$
$8 \times 4 = 32$
$8 \times 5 = 40$
$8 \times 6 = 48$
$8 \times 7 = 56$
$8 \times 8 = 64$
So **5** numbers between 17 and 61 are divisible by 8.

23. **Hint:** Use trial and error. Work with the lines that have two given numbers first.
e.g. Which number, when added to 8 and 1 will make a sum of 18?
Solution:
$8 + 1 + ? = 18$ The missing number is 9.
Then complete:
$8 + 3 + ? = 18$ The missing number is 7.
Fill in what you know.



In fact any line with 2 numbers given can be now completed. Continuing:
$9 + 3 + ? = 18$ The missing number is 6.
$9 + ? + 7 = 18$ The missing number is 2.
$7 + ? + 6 = 18$ The missing number is 5.
Complete the diagram as shown.



24. **Hint:** Draw up a table to include all possible combinations of fillings. Remember to exclude any double ups.
Solution:

Number of fillings	0	1	2	3	4
Options	N	C T L H	CT CL CH TL TH LH	CTL CTH CLH TLH	CTLH
Number of options	1	4	6	4	1

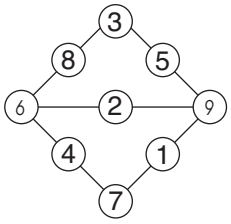
$\Rightarrow$**16**

Working logically there is 1 option for no fillings.
There are 4 different fillings. If we only had 1 filling then there would be 4 sandwich options. If we had 2 fillings in our sandwich then we could make 6 combinations once we eliminated the double ups. Continuing in this way we could make **16** different sandwiches.

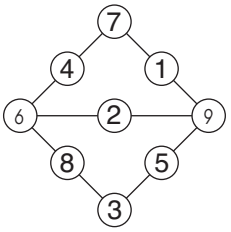
2.4

22. **Hint:** Count by 3's and make a list of all the results between 20 and 31.
Solution: $20 \div 3 = 6$ and 2 remainder.
$31 \div 3 = 10$ and 1 remainder.
To exclude the numbers beyond these limits you can subtract 6 from 10.
$3 \times 5 = 15$
$3 \times 6 = 18$
$3 \times 7 = 21$
$3 \times 8 = 24$
$3 \times 9 = 27$
$3 \times 10 = 30$
$3 \times 11 = 33$
So **4** numbers between 20 and 31 are divisible by 3.

23. **Hint:** Use trial and error. Work with the 2 given numbers first and find the missing number on the middle line. Then consider which two numbers, when added to 9, will make a sum of 17?
Solution:
$6 + ? + 9 = 17$
$15 + ? = 17$ so $? = 2$ Fill in the 2. Then consider:
Which two numbers, when added to 9, will make a sum of 17? Of the possible numbers only
$1 + 7 + 9 = 17$ and $3 + 5 + 9 = 17$
Try these numbers in the lines that include 9.
Similarly find combinations of 2 digits which, when added to 6, make a sum of 17. Try these numbers and observe your results. Continue in this way and complete the diagram as shown.



OR



2.4 (cont.)

24. **Hint:** List the combinations. Remember to exclude any double ups.
Solution: If you chose Saturday, then there would be 6 other possible days of the week to pair with it.
If you chose Sunday, then there would seem to be 6 other days of the week to pair with it but Saturday/Sunday would have already been listed and would be a double up.
A list would look like this:

SaSu						
SaM	SuM					
SaTu	SuTu	MTu				
SaW	SuW	MW	TuW			
SaTh	SuTh	MTh	TuTh	WTh		
SaF	SuF	MF	TuF	WF	ThF	
6	5	4	3	2	1	= 21

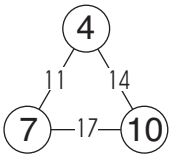
In fact the options are $6 + 5 + 4 + 3 + 2 + 1 = 21$
So **21** different combinations of days are possible.

2.5

22. **Hint:** Count the number of bricks in the diagram. Write a number sentence for what you are given.
Solution:
There are $3\frac{1}{2}$ bricks in the diagram.
You are given: $3\frac{1}{2}$ bricks = 7 kg
7 bricks is twice as many as $3\frac{1}{2}$ bricks.
So 7 bricks would weigh twice as much as $3\frac{1}{2}$ bricks.
2×7 kg = 14 kg
So seven bricks would weigh **14** kg.

23. **Hint:** Write a number sentence. Use trial and error.
Solution: We know:
There are 20 stamps altogether.
Mike has the same as Anna plus 4.
So Anna's stamps + Anna's stamps + 4 = 20.
Ask yourself what number can be doubled and then have 4 added to make 20?
Try 5: $5 + 5 + 4 = 14$ (too small)
Try 7: $7 + 7 + 4 = 18$ (nearly)
Try 8: $8 + 8 + 4 = 20$
Anna has **8** stamps.

24. **Hint:** Guess a number in the top circle and observe your results. Use trial and error.
Solution: Whatever number you place in the top circle to get 11 and 14 on both sides, the numbers in your two base circles must have the same difference which is 3. You therefore require two numbers that have a difference of 3 but add to 17.
By trial and error we get to 7 and 10. The 7 must go in the left circle where the smaller number is required to add to 11. The 10 goes in the right circle. This leads to a 4 at the top.

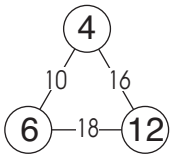


2.6

22. **Hint:** Write a number sentence for what you are given.
Solution:
You are given: $2\frac{1}{2}$ oranges = 500 g
Ask yourself: How many lots of $2\frac{1}{2}$ oranges would make 10 oranges? You would need 4 lots of $2\frac{1}{2}$ oranges to make 10 oranges.
It follows that you would have 4×500 g = the weight.
So ten oranges would weigh 2000 g or **2** kg.

23. **Hint:** Write a number sentence. Use trial and error.
Solution: We know:
There are 22 students in the class.
Boys + girls = 22
and Boys + 4 = girls
So Boys + boys + 4 = 22
Ask yourself what number can be doubled and then have 4 added to make 22?
Try 10: $10 + 10 + 4 = 24$ (too large)
Try 9: $9 + 9 + 4 = 22$
We now know that there are 9 boys in the class.
Using Boys + 4 = girls
$9 + 4 = 13$
There are **13** girls in the class.

24. **Hint:** Guess a number in the top circle and observe your results. Use trial and error.
Solution: Whatever number you place in the top circle to get 10 and 16 on both sides, the numbers in your two base circles must have the same difference which is 6. You therefore require two numbers that have a difference of 6 but add to 18.
By trial and error we get to 6 and 12. The 6 must go in the left circle where the smaller number is required to add to 10. The 12 goes in the right circle. This leads to a 4 at the top.



2.7

22. **Hint:** Write a number sentence for what you are given. Double to get rid of the fraction. First find the weight of one brick.

Solution:

You are given: $4\frac{1}{2}$ bricks = 9 kg

Double the number of bricks and the number of kg to get rid of the fraction.

Now: 9 bricks = 18 kg (divide by 9)

It follows that you would have 1 brick = 2 kg

So two bricks would weigh **4** kg.

23. **Hint:** Write a number sentence.

Solution: We know:

Liam + Rachael = 25

Liam = Rachael + 5

So Rachael + 5 + Rachael = 25

Ask yourself what number can be doubled and then have 5 added to make 25?

Try 9: 9 + 9 + 5 = 23 (nearly)

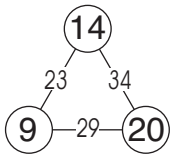
Try 10: 10 + 10 + 5 = 25

Rachael is **10** years old.

24. **Hint:** Guess a number in the top circle and observe your results. Use trial and error.

Solution: Whatever number you place in the top circle to get 23 and 34 on both sides, the numbers in your two base circles must have the same difference which is 11. You therefore require two numbers that have a difference of 11 but add to 29.

By trial and error we get to 9 and 20. The 9 must go in the left circle where the smaller number is required to add to 23. The 20 goes in the right circle. This leads to a 14 at the top.



2.8

22. **Hint:** Write a number sentence for what you are given. Double to get rid of the fraction. First find the weight of one grapefruit.

Solution:

You are given: $1\frac{1}{2}$ grapefruit = 600 g

Double the number of grapefruit and the number of grams to get rid of the fraction.

Now: 3 grapefruit = 1200 g (divide by 3)

It follows that you would have 1 grapefruit = 400 g

So four grapefruit would weigh **1600** g.

23. **Hint:** Write a number sentence. Find the starting number first, then determine how many marbles Ian has now.

Solution:

At the start: Ian = Francis.

Now: Ian + 4 and Francis – 4

and Ian = Francis × 2

Try 10:

At the start: 10 = 10 (each has 10 marbles)

Now: Ian has 10 + 4 = 14

and Francis has 10 – 4 = 6

Check 14 = 6 × 2 = 12 (false)

Try 12:

At the start: 12 = 12 (each has 12 marbles)

Now: Ian has 12 + 4 = 16

and Francis has 12 – 4 = 8

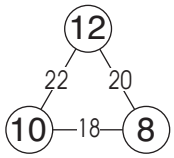
Check 16 = 8 × 2 (true)

Ian now has **16** marbles.

24. **Hint:** Guess a number in the top circle and observe your results. Use trial and error.

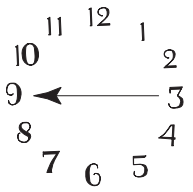
Solution: Whatever number you place in the top circle to get 22 and 20 on both sides, the numbers in your two base circles must have the same difference which is 2. You therefore require two numbers that have a difference of 2 but add to 18.

By trial and error we get to 10 and 8. The 10 must go in the left circle where the larger number is required to add to 22. The 8 goes in the right circle. This leads to a 12 at the top.



3.1

22. **Hint:** Draw a diagram. Consider a clock face.
Solution: The 12 rugby players would be in the same positions as the numbers on a clock.
So the player opposite number 3 wears number **9**.



23. **Hint:** Complete what is given. Work from right to left. Use trial and error. Consider the carry overs.
Solution:
Units ? + 9 = _ last digit six.
7 + 9 = 16
Write in the 7 and carry 1 to the tens.

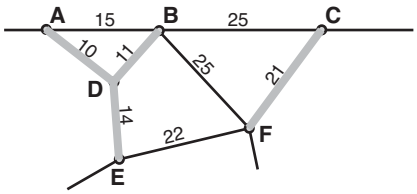
$$\begin{array}{r} {\scriptstyle 1} \\ 6\ \boxed{7} \\ +\ \square\ 9 \\ \hline 9\ 6 \end{array}$$

Tens 6 + ? + carry 1 = 9
Try 2: 6 + 2 + 1 = 9 (correct)
Write in the 2.

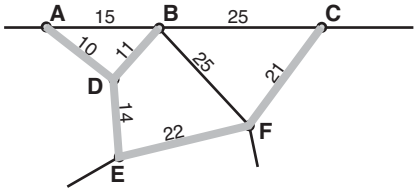
Check the sum.
The missing digits are:

$$\begin{array}{r} {\scriptstyle 1} \\ 6\ \boxed{7} \\ +\ \boxed{2}\ 9 \\ \hline 9\ 6 \end{array}$$

24. **Hint:** Start with the shortest distance and work your way up. Use trial and error. Check that you connect each town.
Solution:
10 km connects A and D.
11 km includes B.
14 km includes E.
15 km connects A and B which are already included so this link is of no advantage.
21 km connects C to F but C and F need to be connected to the earlier group if this distance is to be included.
So far we have:

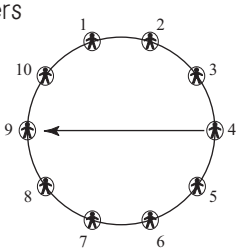


C and F can be connected by any of 3 ways to the other section but 22 km is the shortest distance.
Now we have 10 + 11 + 14 + 21 + 22 = 78
The minimum length of cable required to connect towns A to F is **78** km.



3.2

22. **Hint:** Draw a diagram.
Solution: There are 4 hockey players between the 4th and the 9th hockey players no matter which way you go.
So 4 + 4 = 8.
Then include the 4th and the 9th hockey players.
You have **10** hockey players evenly spaced in the circle.



23. **Hint:** Complete what is given. Work from right to left. Use trial and error. Consider the carry overs.
Solution:
Units ? + 5 + 9 = _ last digit eight.
? + 14 = _ last digit eight.
Try 4: 4 + 14 = 18
Write in the 4 and carry 1 to the tens.

$$\begin{array}{r} {\scriptstyle 1} \\ 1\ 6\ \boxed{4} \\ 5\ 5\ 5 \\ +\ \square\ 4\ 9 \\ \hline 9\ \square\ 8 \end{array}$$

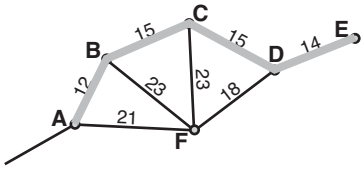
Tens 6 + 5 + 4 + carry 1 = ?
6 + 5 + 4 + carry 1 = 16
Write in the 6 and carry 1 to the hundreds.

Hundreds 1 + 5 + ? + carry 1 = 9
7 + 2 = 9
Write in the 2.

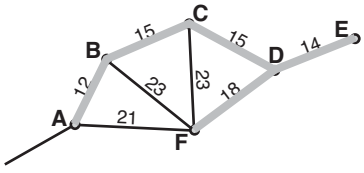
Check the sum.
The missing digits are:

$$\begin{array}{r} {\scriptstyle 1}\ {\scriptstyle 1}\ {\scriptstyle 1} \\ 1\ 6\ \boxed{4} \\ 5\ 5\ 5 \\ +\ \boxed{2}\ 4\ 9 \\ \hline 9\ \boxed{6}\ 8 \end{array}$$

24. **Hint:** Start with the shortest distance and work your way up. Use trial and error. Check that you connect each town.
Solution:
12 km connects A and B.
14 km includes D and E.
15 km includes D and C and C and B.
So far we have:

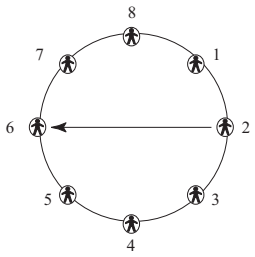


The next shortest distance is 18 km.
18 km connects D and F.
Now we have 12 + 14 + 15 + 15 + 18 = 74
The minimum length of cable required to connect towns A to F is **74** km.



3.3

22. **Hint:** Draw a diagram.
Solution: There are 3 cricketers between the 2nd and the 6th cricketer no matter which way you go.
So 3 + 3 = 6.
Then include the 2nd and the 6th cricketers.
You have **8** cricketers evenly spaced in the circle.



23. **Hint:** Complete what is given. Work from right to left. Use trial and error. Consider the borrowings.
Solution:

Units 6 – 5 = 1
Write in the 1.

Tens ? – 7 = 3
10 – 7 = 3
Write in the 0 and pay back a ten to the hundreds column.

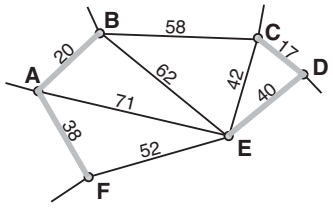
Hundreds 8 – (? + 1 payback) = 4
Try 3: 8 – (3 + 1 payback) = 4 (correct)
Write in the 3.

Check the operation.
The missing digits are:

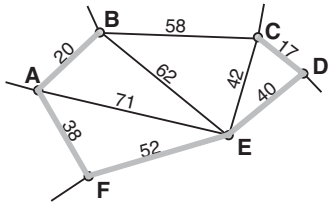
	8	□	6
–	□	7	5
	4	3	1

	8	0	6
–	3	7	5
	4	3	1

24. **Hint:** Start with the shortest distance and work your way up. Use trial and error. Check that you connect each town.
Solution:
17 km connects C and D
20 km connects A and B
38 km connects A and F
40 km connects D and E
So far we have:

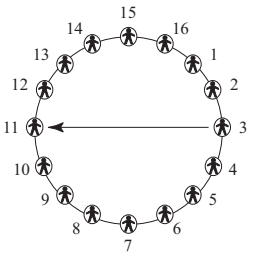


42 km connects C and E which are already included so this link is of no advantage.
52 km connects F and E and the link is complete.
Now we have 17 + 20 + 38 + 40 + 52 = 167
The minimum length of cable required to connect towns A to F is **167** km.



3.4

22. **Hint:** Draw a diagram.
Solution: There are 7 netballers between the 3rd and the 11th netballers no matter which way you go.
So 7 + 7 = 14.
Then include the 3rd and the 11th netballers.
You have **16** netballers evenly spaced in the circle.



23. **Hint:** Complete what is given. Work from right to left. Use trial and error. Consider the carry overs.
Solution:

Units ? + 8 + 8 = _ last digit four.
8 + 16 = 24
Write in the 8 and carry 2 to the tens.

Tens 3 + 5 + ? + carry 2 = _ last digit two.
10 + ? = _ last digit two.
Try 2: 10 + 2 = 12
Write in the 2 and carry 1 to the hundreds.

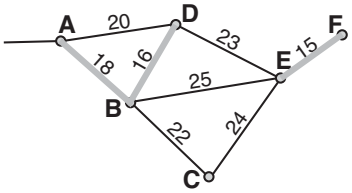
Hundreds 6 + 1 + 1 + carry 1 = 9
Write in the 9.

Check the sum.
The missing digits are:

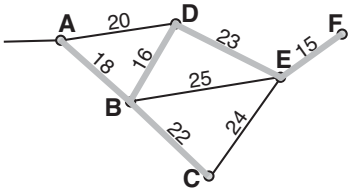
			2	
	6	3	8	
	1	5	8	
+	1	□	8	
	□	2	4	

	1	2		
	6	3	8	
	1	5	8	
+	1	2	8	
	9	2	4	

24. **Hint:** Start with the shortest distance and work your way up. Use trial and error. Check that you connect each town.
Solution:
15 km connects E and F
16 km connects D and B
18 km connects A and B
So far we have:



22 km connects B and C.
23 km connects D and E and the link is complete.
Now we have 15 + 16 + 18 + 22 + 23 = 94
The minimum length of cable required to connect towns A to F is **94** km.



3.5

22. **Hint:** Start on a row or column where you have 2 of the 3 numbers in the addition. Be systematic.
Solution: Start with the first row to be filled.
4 + ? = 6 Fill in 2 on the left.
Once you have the 2 in the working column you can complete the first row.
2 + 5 = ? Fill in 7.
2 + ? = 8 Fill in 6.

+	4	5	6
2	6	7	8
		8	
4			

In the second row again start with what is given, the 8.
5 + ? = 8 Fill in 3 on the left.
Once you have the 3 in the working column you can complete the second row.

Continue in this way until the table is filled as shown:

+	4	5	6
2	6	7	8
3	7	8	9
4	8	9	10

23. **Hint:** Find the value of each symbol. Decide which equation has the easiest relationship to work with.
Solution:

▽▽ = 72 So ▽ + ▽ = 72.
Therefore ▽ = $\frac{1}{2}$ of 72 = 36

▽△△ = 48 So 36 + △ + △ = 48

36 + 12 = 48 Then △ + △ = 12
Therefore △ = $\frac{1}{2}$ of 12 = 6

△||| = 9 So 6 + | + | + | = 9

6 + 3 = 9 Then | + | + | = 3
Therefore | = 1

Substituting these values:
▽△△|| = 36 + 6 + 6 + 1 + 1
= 36 + 12 + 2 = 50
So the ancient number ▽△△|| = **50**

24. **Hint:** Start with what is given. Use trial and error.
Solution: Looking over the sum we notice that both C + C = _ last digit six and B + B = _ last digit six. Given that C ≠ B one of these sums must involve a carry over.

Units C + C = _ last digit six.
Try C = 3
3 + 3 = 6 (correct)
Write in the 3.

Tens B + B = _ last digit 6.
Try B = 8
8 + 8 = 16 (correct)
Write in the 8 and carry 1 to the hundreds.

Hundreds
Try A = 1
1 + 1 + carry 1 = 3 (correct)
Write in the 1.
Check the sum.

So ABC = **183**

3.6

22. **Hint:** Start on a row or column where you have 2 of the 3 numbers in the addition. Be systematic.
Solution: Start with the second row to be filled.
6 + ? = 8 Fill in 2 at the top.
Complete the second row.
6 + 4 = ? Fill in 10.
6 + 6 = ? Fill in 12.

+	2	4	6
	6		
6	8	10	12
			14

In the third row again start with what is given, the 14.
? + 6 = 14 Fill in 8 on the left.
Once you have the 8 in the working column you can complete the third row.

Continue in this way until the table is filled as shown:

+	2	4	6
4	6	8	10
6	8	10	12
8	10	12	14

23. **Hint:** Which symbols appear to have the greatest or smallest values? Presume a simple relationship between the symbols. Use trial and error.
e.g. ☼ + | = 6 if ☼ = 3, + = 2 and | = 1.
Solution:
+|| = 6 The only possible values for | are 0, 1 or 2.
| can't be 2, because then + = 2, which is not possible.
If | = 0 Then + = 6
But from ☼ + + + = 28, then ☼ = 10
And from ☼☼| = 33, then | = 13 (false)
If | = 1 Then + = 4
From ☼ + + + = 28, then ☼ = 16
And from ☼☼| = 33, then | = 1 (true)
Now ☼ + +| = 16 + 4 + 4 + 1 = 25
So the ancient number ☼ + +| = **25**

24. **Hint:** Start with what is given. What do you notice about the letters that add to have a zero ending? Decide if A is closer to 10 or 1. Use trial and error.
Solution: Looking over the sum we notice that both C + B + A = _ last digit zero and B + A = _ last digit zero. This means either C = 10 which is not possible or there is a carry over.

Also for A to add to nothing and result in 8 then A must be either 8 or 7 assuming a carry of 1.

Units C + B + A = _ last digit zero.
Try C = 1, B = 2 and A = 7
1 + 2 + 7 = 10 (correct)
Write in the 7, 2 and 1 and carry 1 to the tens.

Tens 2 + 7 + carry 1 = 10
Carry 1 to the hundreds.

Hundreds
7 + carry 1 = 8 (correct)

So ABC = **721**

3.7

22. **Hint:** Start on a row or column where you have 2 of the 3 numbers in the addition. Be systematic.
Solution: Start with the first row to be filled.
5 + ? = 14 Fill in 9 on the left.
Once you have the 9 in the working column you can complete the first row.
6 + 9 = ? Fill in 15.
9 + ? = 16 Fill in 7.

+	5	6	7
9	14	15	16
7			
		11	

In the second row again start with what is given, the 7.
7 + 5 = ? Fill in 12.

Continue in this way until the table is filled as shown:

+	5	6	7
9	14	15	16
7	12	13	14
5	10	11	12

23. **Hint:** Find the value of each symbol. Presume a simple relationship between the symbols.
Use trial and error.
Solution:
Because there are 2 of | and 3 of | in the equations ending in 2 and 3, the easiest value to try for | is 1.

If | = 1 Then ⋈ + ⋈ + 1 + 1 = 202
Therefore ⋈ = $\frac{1}{2}$ of 200 = 100
Checking if: ⋈ ♀ ♀ ♀ = 130
Then 100 + ♀ + ♀ + ♀ = 130
♀ + ♀ + ♀ = 30
And ♀ = 10 (True so far)
Checking if: ♀ ♀ ||| = 23 = 10 + 10 + 1 + 1 + 1 (true)
Now ⋈ ♀ ||| = 100 + 10 + 1 + 1 + 1 = 113
So the ancient number ⋈ ♀ ||| = **113**

24. **Hint:** Consider the least value of A. What does that tell you about B, C and D given the condition?
Use trial and error.
Solution: Looking over the sum we notice that if A is either 2 (or 1 if a carry is involved) then D has to be 4 or greater. Therefore the units column has a carry.

Units D + D + D = _ last digit eight.
Try D = 6
6 + 6 + 6 = 18 (correct)
Carry 1 to the tens.

	A	B	C	D
		B	C	D
+			C	D
	2	9	6	8

Tens We now know that if D is 6 and A is 1 or 2 then B and C must be 2, 3, 4 or 5.
C + C + C + carry 1 = _ last digit 6.
Try C = 5
5 + 5 + 5 + carry 1 = 16 (correct)
Carry 1 to the hundreds.

Hundreds B must be 3 or 4.
Try B = 4
4 + 4 + carry 1 = 9 (correct)

		1	1	
	2	4	5	6
		4	5	6
+			5	6
	2	9	6	8

Now A must be 2.
Check the sum.

ABCD = **2456**

3.8

22. **Hint:** Start on a row or column where you have 2 of the 3 numbers in the addition. Be systematic.
Solution: Start with the first row to be filled.
? + 7 = 13 Fill in 6 on the left.
6 + 1 = 7 Fill in 7.
6 + 6 = 12 Fill in 12.

+	7	1	6
6	13	7	12
1			7
			13

Try the second row.
Again start with what is given.
7 + 1 = 8 Fill in 8.

Continue in this way until the table is filled as shown:

+	7	1	6
6	13	7	12
1	8	2	7
7	14	8	13

23. **Hint:** Which symbols appear to have the greatest or smallest values? Presume a simple relationship between the symbols. e.g. ∝ ♀ | = 6 if ∝ = 3, ♀ = 2 and | = 1. Use trial and error.
Solution:
♀ ♀ ||| = 13. The only possible values for | are 1 or 3. They must be an odd number so that the other two symbols can add to an even number.

If | = 1 Then ♀ = 5
From ∝ ♀ ♀ ♀ = 40, then ∝ + 15 = 40
So ∝ = 25 (correct)
Checking ∝ ∝ || = 25 + 25 + 1 + 1 = 52 (true)
Now ∝ ♀ ||| = 25 + 5 + 1 + 1 + 1 = 33
So the ancient number ∝ ♀ ||| = **33**

24. **Hint:** Consider what is given. Use trial and error.
Solution: If A is 7 then B + B has no carry. Therefore B must be 4 or less.

Units E + E + E = _ last digit five.
Try E = 5
5 + 5 + 5 = 15 (correct)
Carry 1 to the tens.

	A	B	C	D	E
		B	C	D	E
+			C	D	E
	7	4	9	1	5

Tens D + D + D + carry 1 = _ last digit 1.
Try D = 0
0 + 0 + 0 + carry 1 = 1 (correct)

Hundreds C + C + C = _ last digit 9.
Try C = 3
3 + 3 + 3 = 9 (correct)

Thousands B + B = _ last digit 4.
Try B = 2
2 + 2 = 4 (correct)
Now A must be 7.
Check the sum.

ABCDE = **72305**

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

4.1

22. **Hint:** How much more does an adult or a child pay at the gate than online?
Solution: An adult pays \$85 online and \$95 at the gate.
Therefore 1 adult saves \$10 online.
Two adults save twice as much if they buy online.
$2 \times \$10 = \$20$
A child pays \$80 online and \$95 at the gate.
Therefore 1 child saves \$15 online.
Four children save four times as much if they buy online.
$4 \times \$15 = \$60$
Total saving is $\$20 + \$60 = \$80$
The family saves **\$80** if they buy their one-day tickets online.

23. **Hint:** Work backwards and do the opposite. Draw a diagram.
Solution: The result was 6 so start there.

$\square \xrightarrow{-5} \square \xrightarrow{\div 3} 6$

If at the end you divided by 3, then do the opposite and multiply by 3.
$6 \times 3 = 18$
Continue in this way. If you subtract 5 then add 5.
$18 + 5 = 23$
Double check 6 as your result by working forwards.
$23 - 5 = 18$
$18 \div 3 = 6$ (true)

$23 \xrightarrow{-5} 18 \xrightarrow{\div 3} 6$

So the original number was **23**.

24. **Hint:** Use the 2nd guess to discover the 'cow' in the 1st guess.
Solution:

Guess	Secret number	Cows	Bulls
1st	1 2 3	1	-
2nd	1 2 4	-	-
3rd	1 5 6	-	2

Observe 2nd guess: No correct digits.
(1, 2 and 4 are not anywhere in the secret number.)

Observe 1st guess: We know now that 3 is the cow in the 1st guess. (A secret digit but not in correct position.)

Observe 3rd guess: 5 and 6 must be the 'bulls'.
(Correct digits in the right positions.)
The number will end in 56: _56.

The 3-digit secret number is **356**.

4.2

22. **Hint:** First add the prices for all the items bought. Then subtract the total from \$50.
Solution:

Cost of two tickets:	$\$13.50 + \$13.50 = \$27$
Cost of two medium soft drinks:	$\$5 + \$5 = \$10$
Cost of one large popcorn:	\$6.50
Total cost:	$\$27 + \$10 + \$6.50 =$
	$= \$37 + \$6.50$
	$= \$43.50$
Change from \$50:	$\$50 - \$43.50 = \$6.50$

Miranda and Gina receive **\$6.50** change.

23. **Hint:** Work backwards and do the opposite. Draw a diagram.
Solution: The result was 30 so start there.

$\square \xrightarrow{+9} \square \xrightarrow{\times 3} 30$

If at the end you multiplied by 3, then do the opposite and divide by 3.
$30 \div 3 = 10$
Continue in this way. If you added 9 then subtract 9.
$10 - 9 = 1$
Double check 1 as your result by working forwards.
$1 + 9 = 10$
$10 \times 3 = 30$ (true)

$1 \xrightarrow{+9} 10 \xrightarrow{\times 3} 30$

So the original number was **1**.

24. **Hint:** Use 2nd guess to discover the 'bulls' in the 1st guess.
Solution:

Guess	Secret number	Cows	Bulls
1st	4 5 6	-	2
2nd	9 5 7	-	-
3rd	6 7 8	2	-

Observe 2nd guess: No correct digits.
(9, 5 and 7 are not anywhere in the secret number.)

Observe 1st guess: We know now that 5 is not in the secret number so 4 and 6 are the 'bulls'.
(Correct digits in the right positions.)
The number will be 4_6.

Observe 3rd guess: We know now that 7 is not in the secret number so 6 and 8 are the 'cows'.
(Correct digits in wrong positions.)
Given the positions of 4 and 6, the middle digit must be 8.

The 3-digit secret number is **486**.

4.3

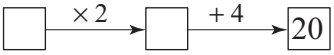
22. **Hint:** First calculate the total cost of 2 adult and 2 child tickets. Then subtract the family ticket from this total.

Solution:

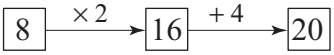
Cost of 2 adult tickets: $53 + $53 = $106
Cost of 2 child tickets: $43 + $43 = $86
Total cost of 2 adult and 2 child tickets:
$106 + $86 = $192
Instead of paying $192, a family of 2 adults and 2 children can buy a family ticket of $143
Therefore the family saves: $192 – $143 = $49
The family saves **$49** if they buy a family ticket, rather than 2 adult and 2 child tickets.

23. **Hint:** Work backwards and do the opposite. Draw a diagram.

Solution: The result was 20 so start there.



If at the end you added 4, then do the opposite and subtract 4.
20 – 4 = 16
Continue in this way. If you doubled then halve.
Half of 16 is 8.
Check 8 as your result by working forwards.
Double 8 is 16.
16 + 4 = 20 (true)



So the original number was **8**.

24. **Hint:** Use the 1st guess to discover the 'cows' in the other guesses.

Solution:

Guess	Secret number	Cows	Bulls
1st	1 7 8	-	-
2nd	8 3 1	1	-
3rd	8 5 3	2	-
4th	2 9 7	1	-

Observe 1st guess: No correct digits.
(1, 7 and 8 are not anywhere in the secret number.)

Observe 2nd guess: We know now that 3 is the cow.
(A secret digit but not in second position.)

Observe 3rd guess: 3 and 5 must be the 'cows'.
(Correct digits but in the wrong positions.) If 3 can't be in third position then it must be first. If 5 is not in second position then only third remains. The number will be 3_5.

Observe 4th guess: 2 or 9 could be the 'cows'.
(Correct digits but in the wrong positions.) 9 can't be in the secret number because it can't remain in the second position being a 'cow'. The missing digit is 2.

The 3-digit secret number is **325**.

4.4

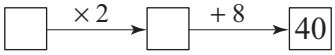
22. **Hint:** First calculate the total cost of 2 adult and 3 child tickets.

Solution:

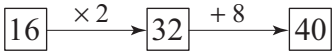
Cost of 2 adult tickets: $26 + $26 = $52
Cost of 3 child tickets: $15.40 × 3 = $46.20
Total cost for 2 adult and 3 child tickets:
$52 + $46.20 = $98.20
Instead of paying $98.20, the Murphys can buy a family ticket of $69 for 2 adults and 2 children and one extra child ticket of $15.40
$69 + $15.40 = $84.40
So instead of paying $98.20, they can pay $84.40
Therefore the family saves: $98.20 – $84.40 = $13.80
The family saves **$13.80** if they pay as a family and one extra child, rather than individuals.

23. **Hint:** Work backwards and do the opposite. Draw a diagram.

Solution: The result was 40 so start there.



If at the end you added 8, then do the opposite and subtract 8.
40 – 8 = 32
Continue in this way. If you doubled then halve.
Half of 32 is 16.
Check 16 as your result by working forwards.
Double 16 is 32.
32 + 8 = 40 (true)



So the original number was **16**.

24. **Hint:** What does 3 'cows' in the 4th guess reveal?

Solution:

Guess	Secret number	Cows	Bulls
1st	7 9 4	-	1
2nd	6 8 1	1	-
3rd	5 7 9	-	1
4th	4 5 6	3	-

Observe 4th guess: All are correct digits.
(4, 5 and 6 are all in the secret number just not in these positions.)

Observe 1st guess: We know now that 4 is the bull.
(A secret digit and in third position.)
The number will end in 4: _ _4.

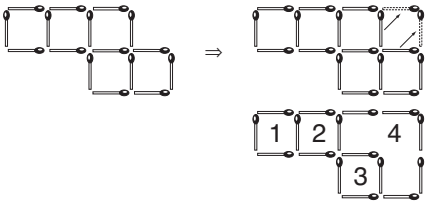
Observe 3rd guess: We know now that 5 is the bull.
(A secret digit and in first position.)
The number will be 5_4.

Observe 2nd guess: 6 must be the 'cow'.
(Correct digit but in the wrong position.)
6 must go in the second position being a 'cow'.

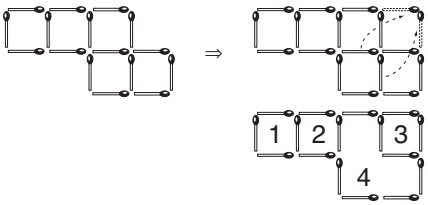
The 3-digit secret number is **564**.

4.5

22. **Hint:** Make a model. Use trial and error.
Solution:



OR, by moving a similar pair of matches:



23. **Hint:** Method 1 - find the cost for 100 g in each deal.
Method 2 - make the quantity the same for both deals, for easy comparison (for example, find the cost of 1200 g in each deal).
Solution:
Method 1
Deal A) 600 g cost \$36 ⇒ 100 g cost \$36 ÷ 6 = \$6
Deal B) 400 g cost \$22 ⇒ 100 g cost \$22 ÷ 4 = \$5.50
Deal B is cheaper per 100 g, therefore the best value.

Method 2
Deal A) double both the quantity and the cost:
600 g for \$36 becomes 1200 g for \$72
Deal B) multiply both the quantity and the cost by 3:
400 g for \$22 becomes 1200 g for \$66
Deal B is the best value, because 1200 g are cheaper.

24. **Hint:** Begin with any row or column that has one number given. Avoid doubling up a digit in the same row or column.
Solution: Start with the bottom row.
If 2 goes in the middle, then a 2 has to go above it to make the operation in the thicker box true:
2 + 2 = 4
We cannot have a double 2 in the same column, so 3 has to be in the middle.
Fill in 3 and 2.
Fill in 1 in the centre of the big square.

12×		6+
	4+ 1	
1	3	2

12×		6+ 1
	4+ 1	3
1	3	2

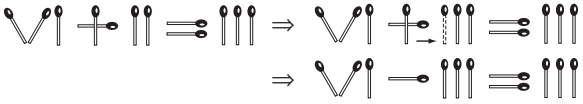
Try the right column.
Fill in the 1 and 3 on top of 2.

Continue in this way until the rows and columns are filled as shown:

12× 3	2	6+ 1
2	4+ 1	3
1	3	2

4.6

22. **Hint:** Make a model. Use trial and error.
Solution:



Move the vertical match from the plus sign to make a group of 3 matches. The subtraction becomes
VI – III = III in roman numerals OR
6 – 3 = 3
Then the statement is correct.

23. **Hint:** Make the cost the same for both deals, for easy comparison.
Solution:
Deal A) double both the quantity and the cost:
350 g for \$6.00 becomes 700 g for \$12.00
Deal B)
800 g for \$12.00
Deal B is the best value, because it buys a bigger quantity of jam for the same price.

24. **Hint:** Begin with any row or column that has one number given. Avoid doubling up a digit in the same row or column.
Solution: Start with the bottom row.
1 and 3 must complete the row to make the operation in the thicker box true:
1 + 3 = 4 or 3 + 1 = 4
Fill in 1 and 3.

6×		2×
3×		
2	4+ 1	3

Try the middle row.
1 and 3 are the only digits that make the operation in the thicker box true:
1 × 3 = 3 or 3 × 1 = 3
Fill in 1 and 3.

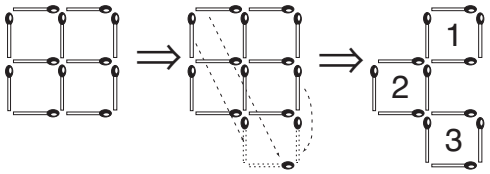
6×		2×
3× 1	3	
2	4+ 1	3

Continue in this way until the rows and columns are filled as shown:

6× 3	2	2× 1
3× 1	3	2
2	4+ 1	3

4.7

22. **Hint:** Make a model. Use trial and error.
Solution:



OR A variation of the above.

23. **Hint:** Make the number of pencils the same for both deals, for easy comparison.
Solution:
Deal A) multiply both the cost and the quantity by 3:
\$5.60 for 8 pencils becomes \$16.80 for 24 pencils
Deal B) double both the cost and the quantity:
\$9.00 for 12 pencils becomes \$18.00 for 24 pencils
Deal A is the best value, because 24 pencils are cheaper.

24. **Hint:** Begin with any row or column that has one number given. Avoid doubling up a digit in the same row or column.
Solution: Start with the 3rd column.
2 has to go to the bottom, because
3 and 4 are the only digits that make the operation in the thicker box true:
$3 + 4 = 7$ or $3 + 4 = 7$
Fill in 3, 4 and 2.

8×		7+ 3	6×
	2×	4	
12×		1	24×
		2	

Try the 2nd column.
1 and 2 are the only digits that make the operation in the thicker box true:
$1 \times 2 = 2$ or $2 \times 1 = 2$
Fill in 1 and 2.

8×		7+ 3	6×
	2× 1	4	
12×	2	1	24×
		2	

Try the 4th column.
2 and 3 are the only digits that make the operation in the thicker box at the top true:
$2 \times 3 = 6$ or $3 \times 2 = 6$
Fill in 2 and 3.

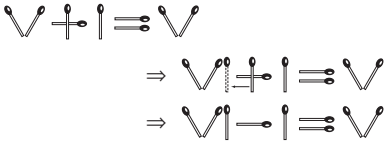
8×		7+ 3	6× 2
	2× 1	4	3
12×	2	1	24×
		2	

Continue in this way until the rows and columns are filled as shown:

8× 1	4	7+ 3	6× 2
2	2× 1	4	3
12× 3	2	1	24× 4
4	3	2	1

4.8

22. **Hint:** Make a model. Use trial and error.
Solution:



Move the vertical match from the plus sign and group with the roman numeral for five.
The subtraction becomes
VI – I = V in roman numerals OR **6 – 1 = 5**
Then the statement is correct.

23. **Hint:** Method 1 - find the cost per capsule in each deal.
Method 2 - make the cost the same for both deals, for easy comparison (for example, how many capsules can be bought with \$90 in both cases?)
Solution:
Method 1
Deal A) \$18 for 36 capsules ⇒ 1 capsule costs
\$18 ÷ 36 = \$0.50
Deal B) \$30 for 50 capsules ⇒ 1 capsule costs
\$30 ÷ 50 = \$0.60
Deal A is cheaper per capsule, therefore the best value.
Method 2
Deal A) multiply both the cost and the quantity by 5:
\$18 for 36 capsules becomes \$90 for 180 capsules
Deal B) multiply both the cost and the quantity by 3:
\$30 for 50 capsules becomes \$90 for 150 capsules
Deal A is the best value, because it buys a bigger number of capsules for the same price.

24. **Hint:** Begin with any row or column that has one number given. Use trial and error.
Solution: Start with the bottom row.
1 has to go to the left, because
2 and 3 are the only digits that make the operation in the thicker box true:
$2 + 3 = 5$ or $3 + 2 = 5$
Fill in 1, 3 and 2 (3 must go after the 1 because the 3 cannot be in any other position up in the 2nd column).

8×			9+
6+	4×		
		3×	
1	5+ 3	2	4

Try the 1st column.
2 and 3 are the only digits that make the operation in the thicker box true:
$1 + 2 + 3 = 6$
Fill in 2 and 3 in the box, and 4 at the top.

8× 4			9+
6+ 2	4×		
3		3×	
1	5+ 3	2	4

Try the 2nd column.
1 and 4 are the only digits that make the operation in the thicker box true:
$1 \times 4 = 4$ or $4 \times 1 = 4$
Fill in 1 and 4 in the box, and 2 at the top.

8× 4	2		9+
6+ 3	4× 1		
2	4	3×	
1	5+ 3	2	4

Continue in this way until the rows and columns are filled as shown:

8× 4	2	1	9+ 3
6+ 3	4× 1	4	2
2	4	3× 3	1
1	5+ 3	2	4

MATHS MATE

Teacher Resource

MATHS MATE

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]

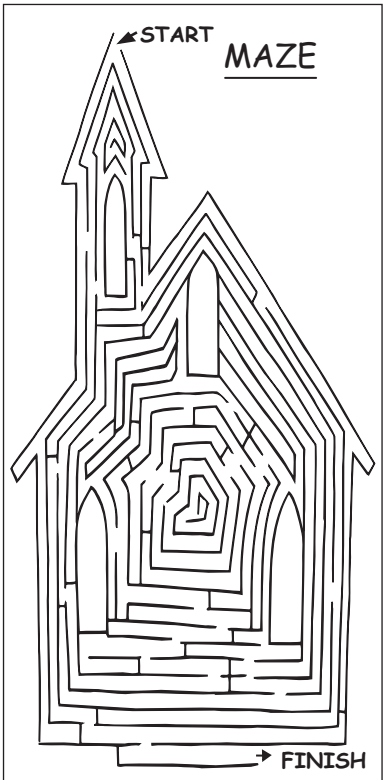
	11	6	8	5	12	13	4	9	10	7
– 3										

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										



5. [Large Number +]

$$\begin{array}{r} 431 \\ +\,206 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 849 \\ -\,332 \\ \hline \square \end{array}$$

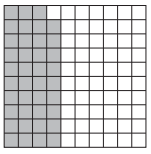
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 193 \\ \times\ 10 \\ \hline \square \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 232 \\ \times\ 3 \\ \hline \square \end{array}$$

9. [Decimals]



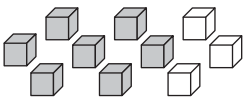
☐ tenths +

☐ hundredths =

0.☐

10. [Fractions]

What fraction of the cubes is shaded?



☐

11. [Decimals / Fractions / Percentages]

5 tenths = ☐ 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 = ☐ + 1

14. [Exploring Numbers]

Write in numerals:
two thousand, five hundred and eight ☐

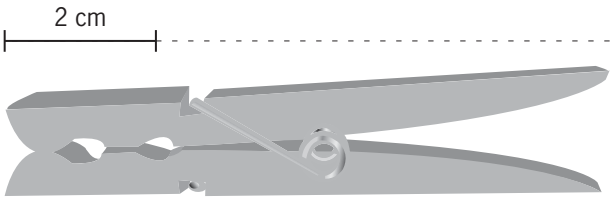
15. [Number Patterns / Equations]

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

16. [Units of Measurement]
Choose the appropriate unit: centimetres, metres or kilometres.

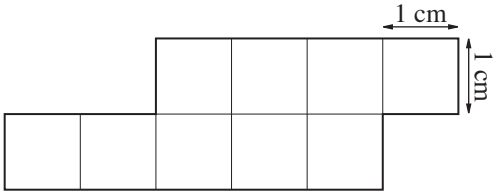
"The distance around the base of Uluru is 9.4 ....."

17. [Measuring]
Estimate the length of the clothes peg.



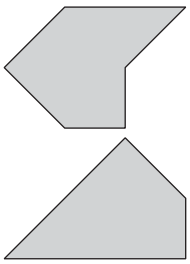
cm

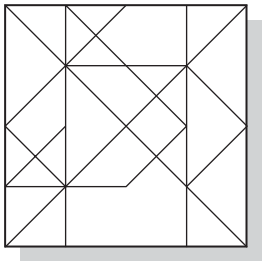
18. [Perimeter / Area]
Find the perimeter of this shape.



cm

19. [Shapes]
One of these shapes is hidden in the maze. Find it and colour it in.
[Same size and orientation.]





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 Australia win most at the 2020 Tokyo Olympics?

OLYMPIC MEDALS - AUSTRALIA
(Tokyo 2020)

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.

$$\begin{array}{r} \square\ 6\ \square \\ -\ 3\ \square\ 5 \\ \hline 5\ 3\ 4 \end{array}$$

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

$7 \square 7 \square 9 = 40$

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]

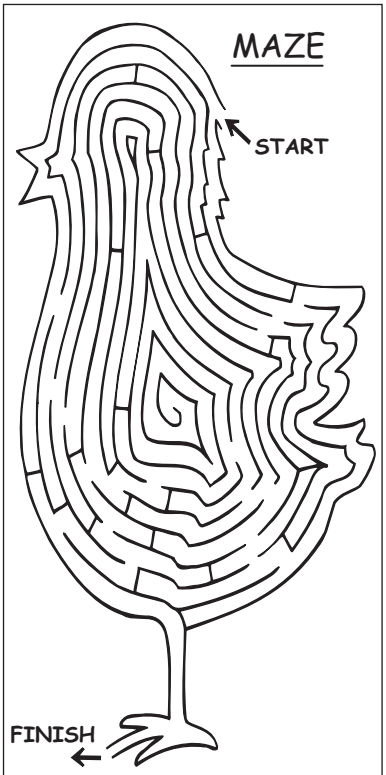
	13	11	9	14	15	6	7	12	10	8
– 5										

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										



5. [Large Number +]

$$\begin{array}{r} 542 \\ +\,203 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 976 \\ -\,731 \\ \hline \square \end{array}$$

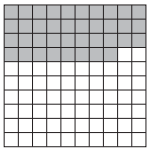
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 368 \\ \times\ 10 \\ \hline \square \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 123 \\ \times\ 3 \\ \hline \square \end{array}$$

9. [Decimals]



☐ tenths +

☐ hundredths = 0.☐

10. [Fractions]

What fraction of the hexagon is shaded?

☐

11. [Decimals / Fractions / Percentages]

2 tenths = ☐ hundredths

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, __ , __

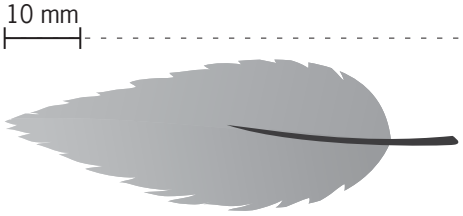
16. [Units of Measurement]

Choose the appropriate unit: centimetres, metres or kilometres.

"One of the tallest waterfalls in New Zealand is Sutherland Falls with a height of 580 ....."

17. [Measuring]

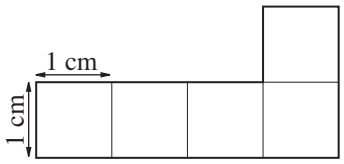
Estimate the length of the leaf.



mm

18. [Perimeter / Area]

Find the perimeter of this shape.

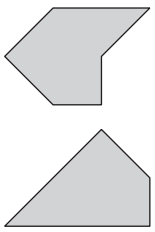


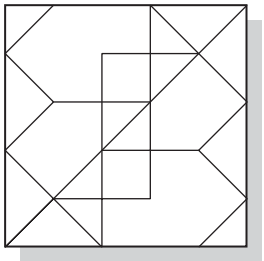
cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.

[Same size and orientation.]



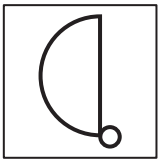


20. [Location / Transformation]

Which movement has transformed this shape?

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

Position 1

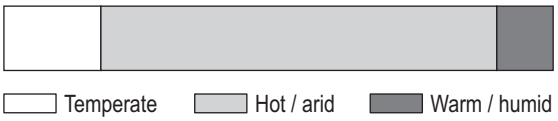


Position 2

21. [Statistics / Probability]

What is the largest climatic zone in Australia?

Australian Climatic Zone by Size



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.

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

24. [Problem Solving 3]

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

9 ☐ 5 ☐ 5 = 50

MATHS MATE

YELLOW

Test 2

Covering worksheets 1.5 - 1.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	15	12	11	20	13	17	16	14	19	18
– 10										

3. [× Whole Numbers to 10]

	7	2	8	9	6	10	4	1	3	5
× 5										

4. [÷ Whole Numbers to 10]

	4	32	36	12	28	24	20	40	16	8
÷ 4										

DECODE THESE INITIALS

Each statement contains the initials of missing words. Complete the words so that the statements make sense.

e.g. H. in a D. = 24
Hours in a Day = 24

Try your skill on these:

L. of the A. = 26
S. on the A. F. = 6
H. on a G. C. = 18
B. M. (S. H. T. R.) = 3
S. on a C. B. = 64

Answer: Letters, Alphabet / Stars, Australian, Flag / Holes, Golf, Course / Blind, Mice, See, How, They, Run / Squares, Chess, Board.

5. [Large Number +]

$$\begin{array}{r} 2342 \\ 1132 \\ +\,1325 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 836 \\ -\,212 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

$540 \div 10 =$ ☐

8. [Large Number ×,÷]

☐

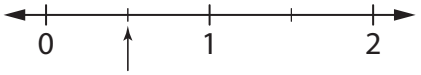
$3\overline{)60}$

9. [Decimals]

Write as a decimal:
three and eight tenths. ☐

10. [Fractions]

Name the fraction shown by the arrow on the number line.



☐

11. [Decimals / Fractions / Percentages]

Write $\frac{17}{100}$ as a decimal. ☐

12. [Place Value]

In which number does the digit 2 have a smaller value?

A) 1294
B) 1723

☐

13. [Operations]

$8 \times 4 =$ ☐ $\times 8$

14. [Exploring Numbers]

Write the number 426 in words.

☐

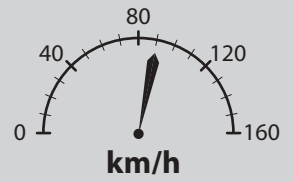
15. [Number Patterns / Equations]

$17 +$ ☐ $= 23$

16. [Units of Measurement]
Convert to metres:

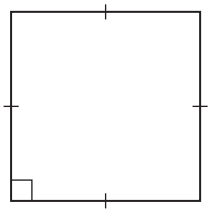
1 kilometre = _____ m

17. [Measuring]
What speed is shown by the arrow on the scale?



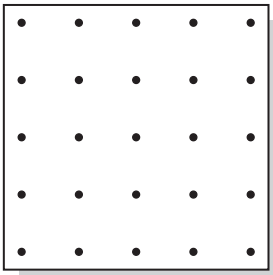
_____ km/h

18. [Perimeter / Area]
Using a ruler, find the perimeter of the square in centimetres.

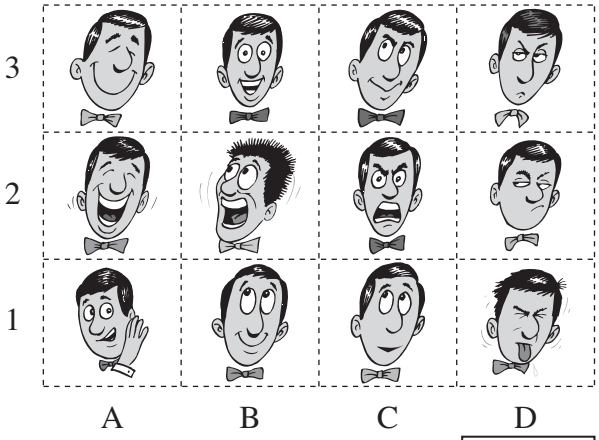


_____ cm

19. [Shapes]
Draw a rectangle on the dotted grid. Make sure that all the vertices are on a dot.

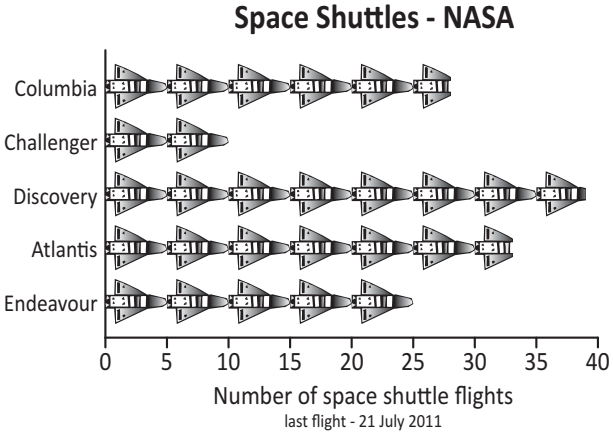


20. [Location / Transformation]
Where is the whispering person located on the grid?



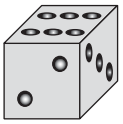
_____

21. [Statistics / Probability]
Which space shuttle completed 28 space flights?



_____

22. [Problem Solving 1]
What is the sum of the numbers on the three hidden faces of the die?



_____

23. [Problem Solving 2]
A frog falls down a well that is 16 m deep. One minute it leaps up 4 m, the next minute it rests and slips back 2 m. How long does it take to reach the top of the well if it keeps leaping and slipping in this way?

_____ min

24. [Problem Solving 3]
Fill in the missing numbers to produce correct equations in every row and column.

	−		=	10
+		−		+
10	+	50	=	
=		=		=
	−	20	=	

MATHS MATE

YELLOW

Test 2

Covering worksheets 1.5 - 1.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	14	11	12	6	10	9	8	13	7	15
– 5										

3. [× Whole Numbers to 10]

	9	7	8	6	5	3	4	1	2	10
× 1										

4. [÷ Whole Numbers to 10]

	64	40	8	80	72	56	24	32	16	48
÷ 8										

DECODE THESE INITIALS

Each statement contains the initials of missing words. Complete the words so that the statements make sense.

e.g. C. in a S. = 13
Cards in a Suit = 13

Try your skill on these:

D. at which W. F. = 0
B. B. in a P. = 4 and 20
W. on a U. = 1
S. of the Z. = 12
Y. in a M. = 1000

Answer: Degrees, Water, Freezes / Blackbirds, Baked, Pie / Wheel, Unicycle / Signs, Zodiac / Years, Millennium.

5. [Large Number +]

$$\begin{array}{r} 5322 \\ 2101 \\ +\,2316 \\ \hline \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 967 \\ -\,224 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$620 \div 10 =$

8. [Large Number ×,÷]

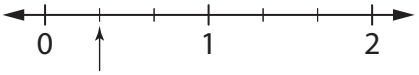
$4\overline{)40}$

9. [Decimals]

Write as a decimal:
five and six tenths.

10. [Fractions]

Name the fraction shown by the arrow on the number line.



11. [Decimals / Fractions / Percentages]

Write $\frac{45}{100}$ as a decimal.

12. [Place Value]

In which number does the digit 4 have a smaller value?

A) 7642
B) 1450

13. [Operations]

$\square \times 7 = 7 \times 3$

14. [Exploring Numbers]

Write the number 318 in words.

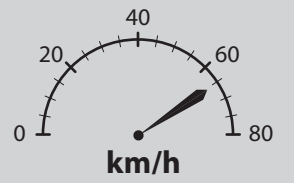
15. [Number Patterns / Equations]

$\square + 18 = 29$

16. [Units of Measurement]
Convert to millimetres:

1 metre = _____ mm

17. [Measuring]
What speed is shown by the arrow on the scale?

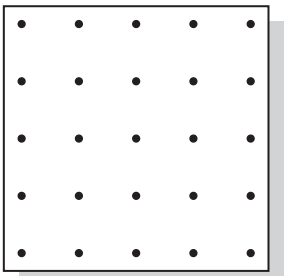


_____ km/h

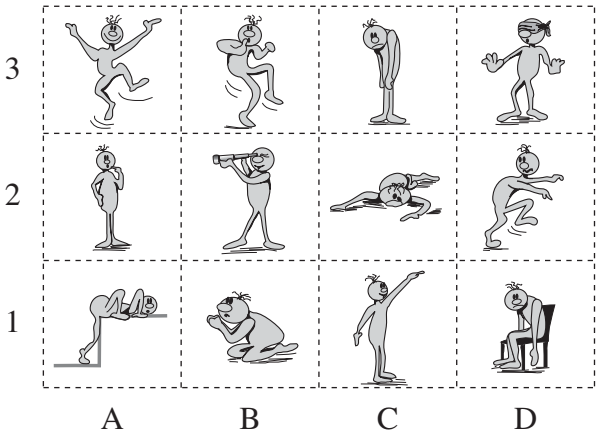
18. [Perimeter / Area]
Using a ruler, find the perimeter of the square in millimetres.

_____ mm

19. [Shapes]
Draw a right-angled triangle on the dotted grid. Make sure that all the vertices are on a dot.

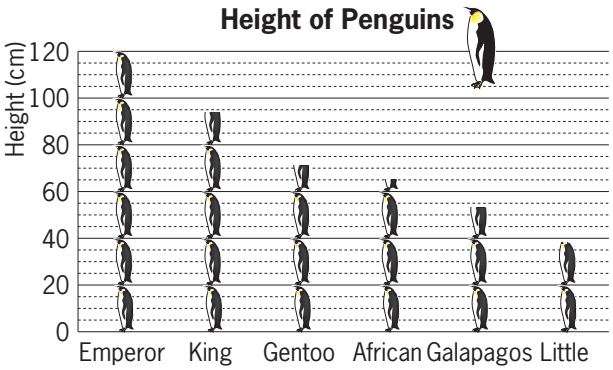


20. [Location / Transformation]
Where is the person with the telescope located on the grid?



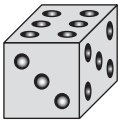
_____

21. [Statistics / Probability]
What is the height of an African penguin?



_____ cm

22. [Problem Solving 1]
What is the sum of the numbers on the three hidden faces of the die?



_____

23. [Problem Solving 2]
A frog falls down a well that is 8 m deep. One minute it leaps up 3 m, the next minute it rests and slips back 2 m. How long does it take to reach the top of the well if it keeps leaping and slipping in this way?

_____ min

24. [Problem Solving 3]
Fill in the missing numbers to produce correct equations in every row and column.

	−		=	5
+		−		+
1	+	2	=	
=		=		=
	−	1	=	

MATHS MATE

YELLOW

Test 3

Covering worksheets 2.1 - 2.4

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	20	14	18	16	17	12	11	15	19	13
– 10										

3. [× Whole Numbers to 10]

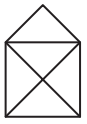
	1	7	3	6	5	8	4	9	2	10
× 4										

4. [÷ Whole Numbers to 10]

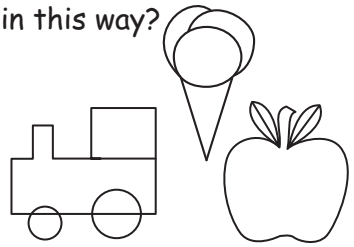
	30	6	9	15	27	24	21	12	18	3
÷ 3										

JUST A TRACE

The envelope can be traced without lifting your pen from the paper and without going over any line more than once. Can you do it?



Which diagram below can't be traced in this way?



Answer: Q1) Start in either of bottom corners and draw inside lines first or last.
Q2) Apple.

5. [Large Number +]

$$\begin{array}{r} 145 \\ +\,239 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 80 \\ -\,3 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

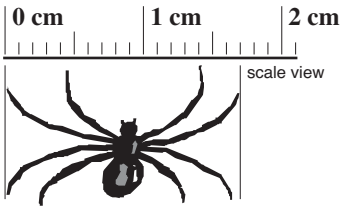
$$\begin{array}{r} 84 \\ \times 100 \\ \hline \square \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 16 \\ \times\ \ 5 \\ \hline \square \end{array}$$

9. [Decimals]

What is the width of the spider?



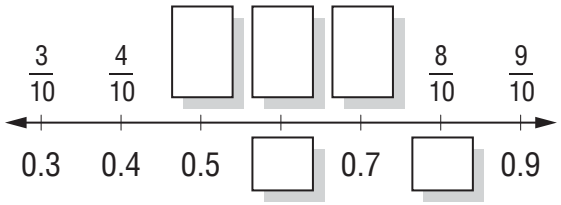
cm

10. [Fractions]

If three quarters of the money was spent, what fraction of the money is left?

11. [Decimals / Fractions / Percentages]

Complete the number line.



12. [Place Value]

Place in order from smallest to largest:

6766, 6776, 6676, 6777

13. [Operations]

$4 + \square = 4$

14. [Exploring Numbers]

Write 8013 in words.

15. [Number Patterns / Equations]

32, 28, 24, 20, 16, __ , __

16. [Units of Measurement]

Convert to metres:

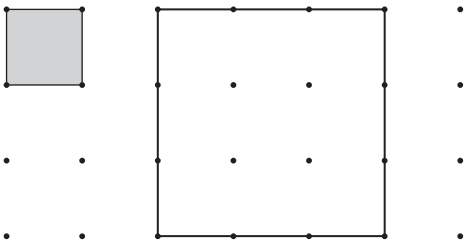
2 km = m

17. [Measuring]

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

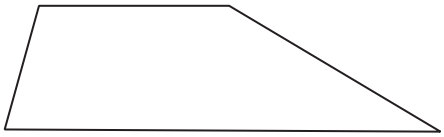
18. [Perimeter / Area]

How many small squares are needed to cover the larger square?



19. [Shapes]

How many interior angles does a trapezium have?

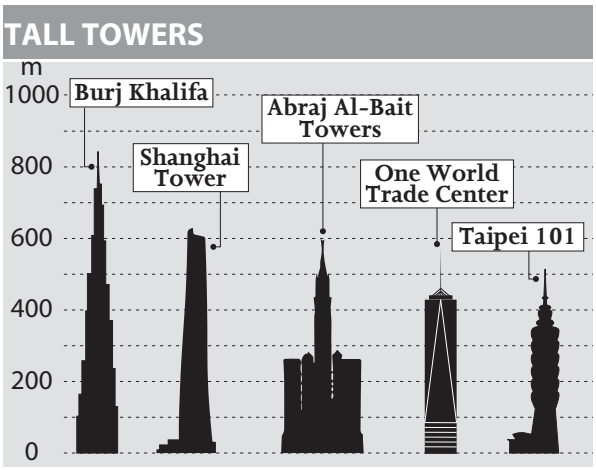


20. [Location / Transformation]

Draw the lines of symmetry through the rectangle. How many lines of symmetry does the rectangle have?

21. [Statistics / Probability]

Which of the world's tall towers is closest to 500 metres high?

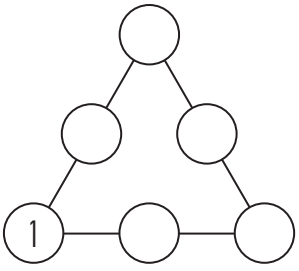


22. [Problem Solving 1]

How many numbers between 1 and 50 are divisible by 6?

23. [Problem Solving 2]

Fill in the digits 2, 3, 4, 5 and 6 so that the sum on every side of the triangle is 9.



24. [Problem Solving 3]

Four committee members shook hands with each other at the start of a meeting. How many handshakes took place?

MATHS MATE

YELLOW

Test 3

Covering worksheets 2.1 - 2.4

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	11	16	15	17	18	10	13	9	14	12
– 8										

3. [× Whole Numbers to 10]

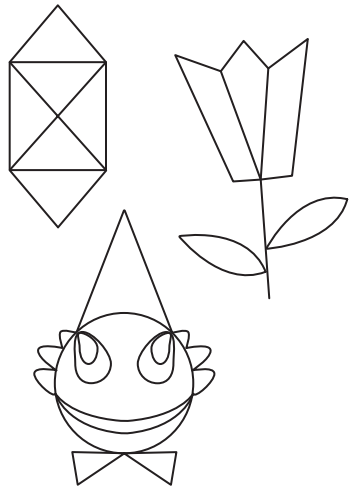
	5	7	1	6	2	3	10	9	4	8
× 3										

4. [÷ Whole Numbers to 10]

	3	6	2	8	4	1	10	5	7	9
÷ 1										

JUST A TRACE

Which of these objects can **not** be traced over, without lifting your pen?
(Note: You may not trace over the same path twice.)



Answer: Flower

5. [Large Number +]

$$\begin{array}{r} 348 \\ +\,128 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 80 \\ -\,7 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

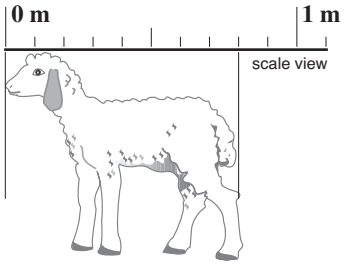
$$\begin{array}{r} 37 \\ \times 100 \\ \hline \square \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 25 \\ \times\ \ 6 \\ \hline \square \end{array}$$

9. [Decimals]

What is the length of the lamb?



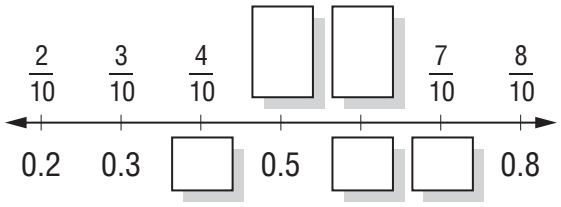
m

10. [Fractions]

If two fifths of the race is over, what fraction of the race remains?

11. [Decimals / Fractions / Percentages]

Complete the number line.



12. [Place Value]

Place in order from largest to smallest:

4554, 4545, 4455, 4555

13. [Operations]

$\square \times 1 = 6$

14. [Exploring Numbers]

Write 6015 in words.

15. [Number Patterns / Equations]

40, 34, 28, 22, 16, __ , __

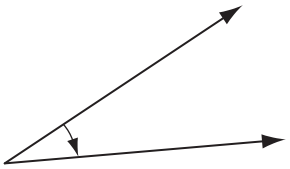
16. [Units of Measurement]

Convert to millimetres:

8 m = mm

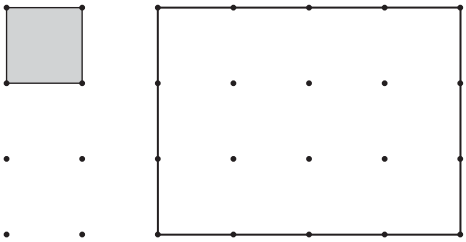
17. [Measuring]

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



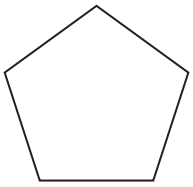
18. [Perimeter / Area]

How many small squares are needed to cover the larger rectangle?



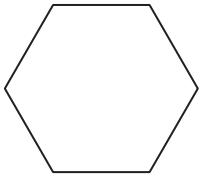
19. [Shapes]

How many sides does a pentagon have?



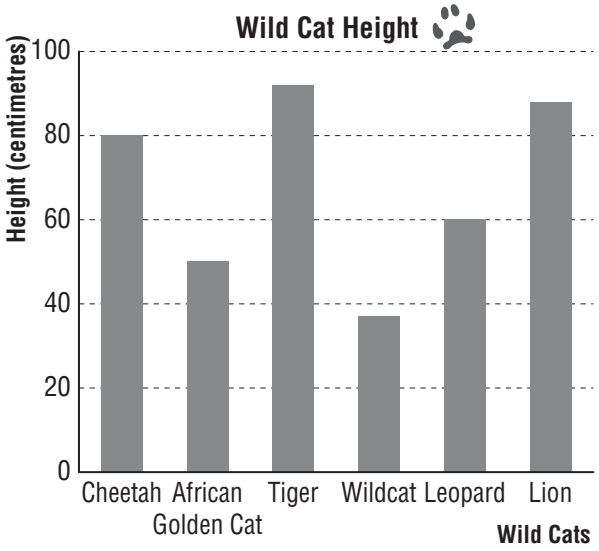
20. [Location / Transformation]

Draw the lines of symmetry through the hexagon. How many lines of symmetry does the hexagon have?



21. [Statistics / Probability]

Which of the wild cat species shown below is the tallest?

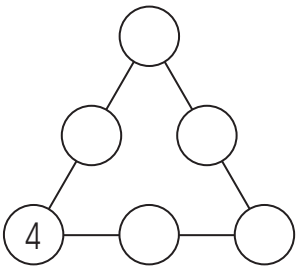


22. [Problem Solving 1]

How many numbers between 1 and 45 are divisible by 7?

23. [Problem Solving 2]

Fill in the digits 0, 1, 2, 3 and 6 so that the sum on every side of the triangle is 7.



24. [Problem Solving 3]

A flag is to be prepared using a star of one colour sewn onto a background of a different colour. The only materials available are green cloth, red cloth, blue cloth and white cloth. How many different flags are possible?

MATHS MATE

YELLOW

Test 4

Covering worksheets 2.5 - 2.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	6	15	14	12	8	9	7	11	13	10
– 3										

3. [× Whole Numbers to 10]

	9	10	4	5	2	3	7	6	8	1
× 2										

4. [÷ Whole Numbers to 10]

	35	40	25	45	30	10	5	15	50	20
÷ 5										

5. [Large Number +]

$$\begin{array}{r} 646 \\ +\ 337 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 74 \\ -\ 25 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

$6600 \div 100 =$ ☐

8. [Large Number ×,÷]

☐

$3 \overline{)\ 3669}$

9. [Decimals]

Write these cents in dollars:

455¢ = $ ☐

10. [Fractions]

Name the mixed number represented by the shaded pentagons.

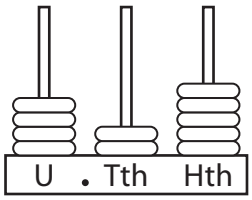
☐

11. [Decimals / Fractions / Percentages]

Write 0.9 as a fraction. ☐

12. [Place Value]

Write the decimal number.



☐

13. [Operations]

$14 - 2 + 5 =$ ☐

14. [Exploring Numbers]

Using the digits 1, 2, 3 and 8 write an even number between 3800 and 3850. ☐

15. [Number Patterns / Equations]

$17 - \square = 4$

HIDDEN MEANINGS

Answer:
A hole in one
News up-date
Mind over matter

16. [Units of Measurement]

Convert to grams:

8 kg = _____ g

17. [Measuring]

What time in the evening is shown on this clock?

i) 12-hour time format (AM or PM):

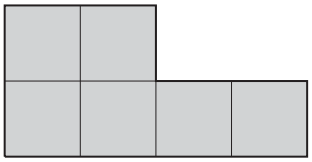
_____ : _____

ii) 24-hour time format:

_____ : _____

18. [Perimeter / Area]

Find the area of this shape.



Area = 1 cm^2

_____ cm^2

19. [Shapes]

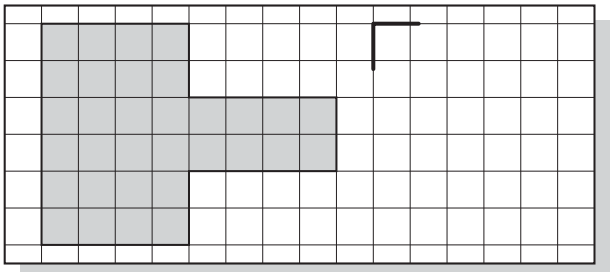
This triangle has:

A) two sides parallel
B) all sides of equal length
C) no line of symmetry
D) two perpendicular sides

_____

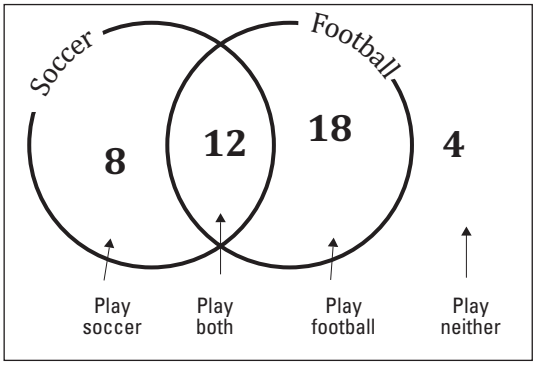
20. [Location / Transformation]

Redraw this shape after halving its size.



21. [Statistics / Probability]

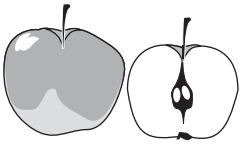
How many of the boys surveyed play only soccer?



_____

22. [Problem Solving 1]

What is the weight of six apples if one and a half apples of the same size weigh one hundred and fifty grams?



_____ g

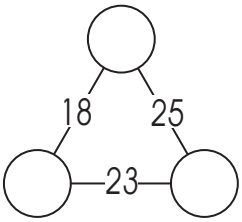
23. [Problem Solving 2]

In a stage production of 'Swan Lake' there were 46 dancers. How many men were in the show if there were 30 more women than men?

_____

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

YELLOW

Test 4

Covering worksheets 2.5 - 2.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	18	15	19	12	14	20	17	13	11	16
– 7										

3. [× Whole Numbers to 10]

	9	1	7	2	10	5	4	8	3	6
× 10										

4. [÷ Whole Numbers to 10]

	3	24	27	9	21	18	15	30	12	6
÷ 3										

HIDDEN MEANINGS

stand
i

sgge
egsg
segg
gegs

T
O
U
C
H

Answer:
I understand
Scrambled eggs
Touch down

5. [Large Number +]

$$\begin{array}{r} 3\,5\,5 \\ +\,4\,3\,6 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 8\,3 \\ -\,4\,6 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

2500 ÷ 100 = ☐

8. [Large Number ×,÷]

☐

$$2\overline{)4\,2\,8\,6}$$

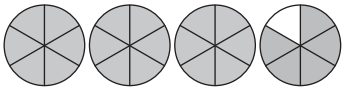
9. [Decimals]

Write these cents in dollars:

715¢ = $ ☐

10. [Fractions]

Name the mixed number represented by the shaded circles.



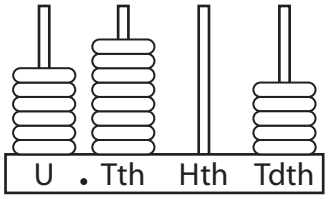
☐

11. [Decimals / Fractions / Percentages]

Write 0.81 as a fraction. ☐

12. [Place Value]

Write the decimal number.



☐

13. [Operations]

16 – 3 + 2 = ☐

14. [Exploring Numbers]

Using the digits 3, 6, 7 and 8 write an even number between 6350 and 6400. ☐

15. [Number Patterns / Equations]

13 – ☐ = 7

16. [Units of Measurement]

Convert to kilograms:

6000 g = _____ kg

17. [Measuring]

What time in the morning is shown on this clock?

i) 12-hour time format (AM or PM):

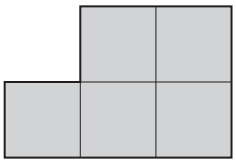
_____ : _____

ii) 24-hour time format:

_____ : _____

18. [Perimeter / Area]

Find the area of this shape.



Area = 1 cm^2

_____ cm^2

19. [Shapes]

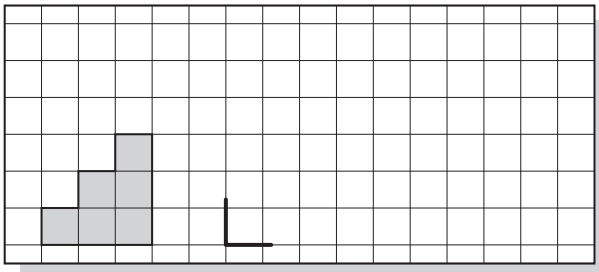
This trapezium has:

A) two perpendicular sides
B) all sides of equal length
C) one line of symmetry
D) two parallel sides

_____

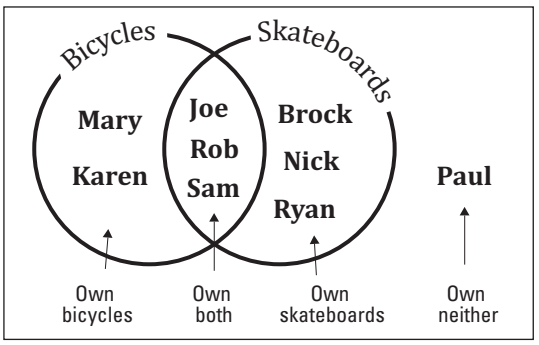
20. [Location / Transformation]

Redraw this shape after doubling its size.



21. [Statistics / Probability]

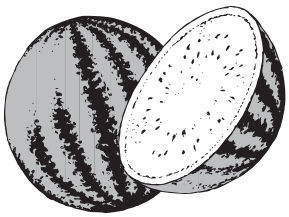
Name the children who own bicycles, but not skateboards.



_____

22. [Problem Solving 1]

What is the weight of six watermelons if one and a half watermelons of the same size weigh six kilograms?



_____ kg

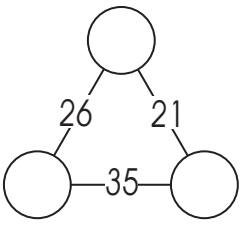
23. [Problem Solving 2]

I bought a 270 mL drink for each of my two children. Rebecca couldn't finish her drink so she gave the remainder to David. How much did David drink if he ended up having exactly twice as much drink as Rebecca?

_____ mL

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

YELLOW

Test 5

Covering worksheets 3.1 - 3.4

Name: .....

1. [+ Whole Numbers to 10]

	15	10	8	13	9	12	11	17	16	14
+ 8										

2. [– Whole Numbers to 10]

	20	8	22	16	17	15	14	9	13	11
– 7										

3. [× Whole Numbers to 10]

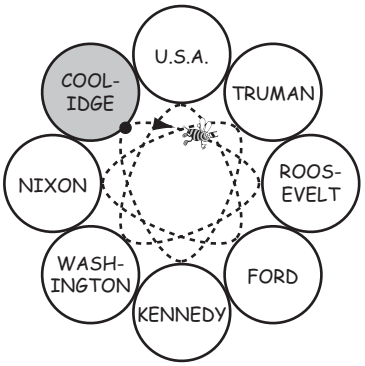
	3	5	9	8	7	4	6	1	10	2
× 5										

4. [÷ Whole Numbers to 10]

	27	81	90	45	72	18	54	63	36	9
÷ 9										

SPELLING BEE

Starting on Coolidge, follow the Bee's path as you spell the name of one of the U.S. Presidents shown, one letter per bounce. The clever Bee will end up on the chosen President.



5. [Large Number +]

$$\begin{array}{r} 2472 \\ +\ 175 \\ \hline \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 682 \\ -\ 407 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 20 \\ \times 1000 \\ \hline \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 250 \\ \times\ 9 \\ \hline \end{array}$$

9. [Decimals]

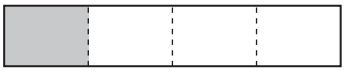
Which of the following are true?

A) 10.0 = 10
B) 0.4 = 0.04
C) 1.20 = 0.120
D) 0.6 = 0.6000

and

10. [Fractions]

Shade to complete the sum.



$\frac{1}{4} + \frac{2}{4} =$

11. [Decimals / Fractions / Percentages]

Write the mixed number $7\frac{4}{10}$ as a decimal.

12. [Place Value]

What is the value of the digit 3 in the number 18.305?

13. [Operations]

$24 - 16 \div 8 =$

14. [Exploring Numbers]

Complete the next two multiples of 2.

2, 4, 6, __ , __

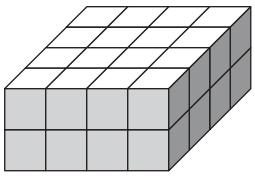
15. [Number Patterns / Equations]

5, 10, 20, 40, __ , __

16. [Units of Measurement]
Convert to millilitres:

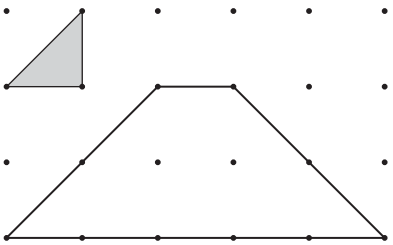
18 L = ____ mL

17. [Measuring]
How many cubes were used to make the prism?



____

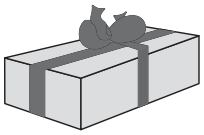
18. [Perimeter / Area]
How many shaded triangles are needed to cover the trapezium?



____

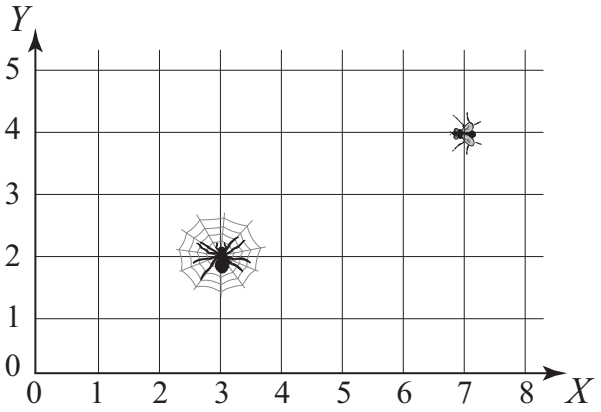
19. [Shapes]
What type of solid is shown below?

A) cube
B) square pyramid
C) rectangular prism



____

20. [Location / Transformation]
What are the coordinates of the spider and the fly?



spider = ____ fly = ____

21. [Statistics / Probability]
Which alternative is closest in meaning to the expression "Even chance"?

A) unlikely
B) 50 - 50 chance
C) impossible

____

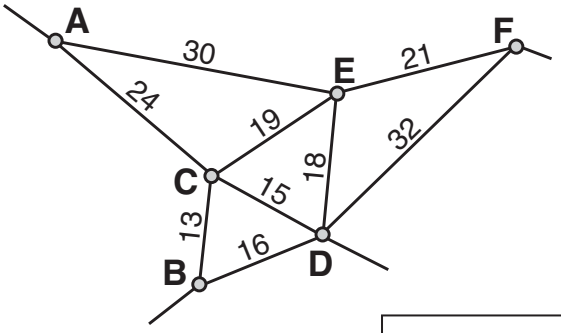
22. [Problem Solving 1]
A number of children are standing in a circle at a party. They are evenly spaced and the fourth child is directly opposite the ninth child. How many children are there altogether?

____

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

$$\begin{array}{r} \square\,7 \\ 2\,\square \\ +\ 4\ 1 \\ \hline 9\ 2 \end{array}$$

24. [Problem Solving 3]
Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required.
[Each town must be connected to at least one other town. All distances are in kilometres.]



____ km

MATHS MATE

YELLOW

Test 5

Covering worksheets 3.1 - 3.4

Name: .....

1. [+ Whole Numbers to 10]

	13	8	12	7	11	16	10	14	15	9
+ 6										

2. [– Whole Numbers to 10]

	13	8	26	21	10	14	9	22	15	7
– 6										

3. [× Whole Numbers to 10]

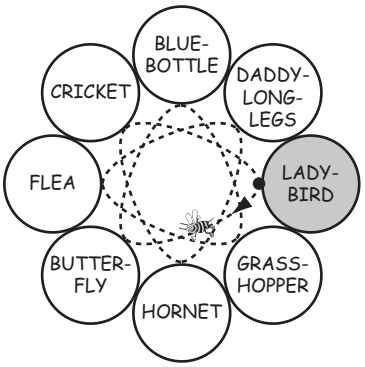
	9	8	7	4	6	1	10	2	3	5
× 9										

4. [÷ Whole Numbers to 10]

	49	42	28	7	63	70	14	35	56	21
÷ 7										

SPELLING BEE

Starting on Ladybird, follow the Bee's path as you spell the name of any insect, one letter per bounce. The clever Bee will end up on the insect it has spelt.



5. [Large Number +]

$$\begin{array}{r} 3573 \\ +\ 252 \\ \hline \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 571 \\ -\ 136 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 80 \\ \times 1000 \\ \hline \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 960 \\ \times\ 7 \\ \hline \end{array}$$

9. [Decimals]

Which of the following are true?

A) 0.2 = 0.02
B) 0.5 = 0.500
C) 6.00 = 6.0
D) 80 = 800

and

10. [Fractions]

Shade to complete the sum.

$\frac{1}{5} + \frac{2}{5} =$

11. [Decimals / Fractions / Percentages]

Write the mixed number $3\frac{15}{100}$ as a decimal.

12. [Place Value]

What is the value of the digit 7 in the number 0.97?

13. [Operations]

$4 \times 3 + 6 =$

14. [Exploring Numbers]

Complete the next two multiples of 3.

3, 6, 9, __ , __

15. [Number Patterns / Equations]

3, 6, 12, 24, __ , __

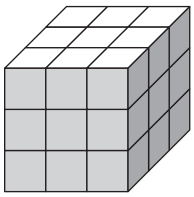
16. [Units of Measurement]

Convert to litres:

10 000 mL = ☐ L

17. [Measuring]

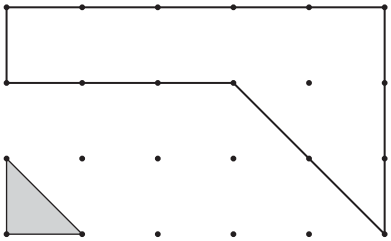
How many small cubes were used to make the larger cube?



☐

18. [Perimeter / Area]

How many shaded triangles are needed to cover the shape?



☐

19. [Shapes]

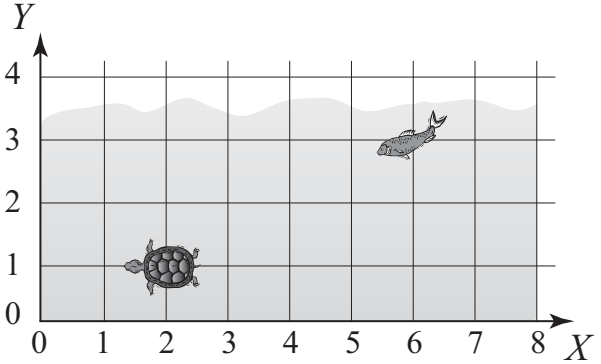
What type of solid is shown below?

A) pentagonal prism
B) sphere
C) cylinder

☐

20. [Location / Transformation]

What are the coordinates of the turtle and the fish?



turtle = ☐ fish = ☐

21. [Statistics / Probability]

Which alternative is closest in meaning to the expression "Pigs might fly"?

A) likely to occur
B) unlikely to occur
C) will not occur

☐

22. [Problem Solving 1]

A number of soccer players are standing in a circle. They are evenly spaced and the second player is directly opposite the seventh player. How many soccer players are there altogether?

☐

23. [Problem Solving 2]

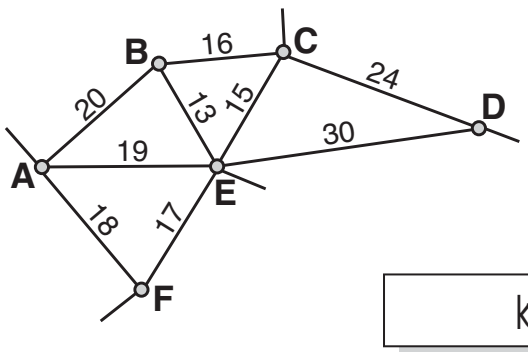
Fill in the missing digits in the sum.

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

24. [Problem Solving 3]

Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required.

[Each town must be connected to at least one other town. All distances are in kilometres.]



☐ km

MATHS MATE

YELLOW

Test 6

Covering worksheets 3.5 - 3.8

Name: .....

1. [+ Whole Numbers to 10]

	11	14	13	15	18	10	9	17	12	16
+ 8										

2. [– Whole Numbers to 10]

	30	19	13	26	12	18	21	15	17	24
– 9										

3. [× Whole Numbers to 10]

	5	7	1	6	2	3	10	9	4	8
× 7										

4. [÷ Whole Numbers to 10]

	12	18	42	36	48	6	54	60	24	30
÷ 6										

WORD CODE

Each letter in the code below represents a different digit. When a letter appears more than once, it always represents the same digit.
Try to find the code.

```
  FISH
+CHIPS
------
 YUMMY
```

1	
2	H
3	
4	I
5	
6	C
7	
8	
9	

	F	I 4	S	H 2	
+ C 6	H 2	I 4	P	S	
Y	U	M	M	Y	

Answer: UHPISCYMF

5. [Large Number +]

```
 6064
  130
+2423
------
```

6. [Large Number –]

```
  300
–  73
------
```

7. [Powers of 10 ×,÷]

$13\,000 \div 1000 =$

8. [Large Number ×,÷]

$6 \overline{)\,246}$

9. [Decimals]

```
 $1.30
+$4.95
------
```

10. [Fractions]

$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$
$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$

Use <, = or > to make this statement true.

$\frac{1}{7}$ ☐ $\frac{5}{7}$

11. [Decimals / Fractions / Percentages]

Shade 25% or $\frac{1}{4}$ of this square.

12. [Place Value]

Place in order from smallest to largest:

4.8, 4, 8.4, 4.4, 8

13. [Operations]

$5 + 7 - 3 - 1 =$

14. [Exploring Numbers]

Which number is a prime?

6, 7, 8 or 9

15. [Number Patterns / Equations]

$50 \times$ ☐ $= 350$

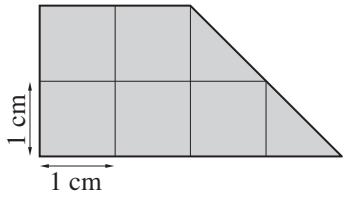
16. [Units of Measurement]
Convert to minutes:

2 h = ____ min

17. [Measuring]
It is 08:45. What will the time be in 1 hour and 25 minutes?
[Use the 24-hour clock.]

____ : ____

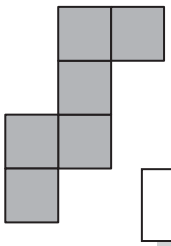
18. [Perimeter / Area]
Find the area of this trapezium.



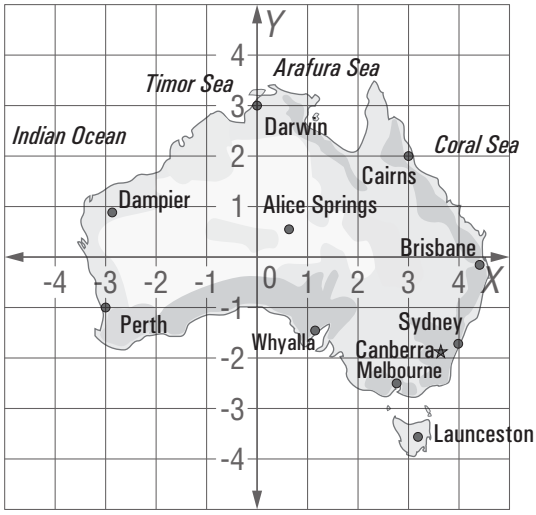
____ cm^2

19. [Shapes]
Which shape can this net be used to make?

A) cube
B) square prism
C) rectangular prism



20. [Location / Transformation]
From Perth you move three units right on the grid and four units up. Which city are you in and what are the coordinates of this city?



city: ____ (,)

21. [Statistics / Probability]
A single die is rolled. What is the probability that it will come up a number less than 5?

A) one out of six
B) two out of five
C) four out of six

____

22. [Problem Solving 1]
Complete the addition table.

+	6	4	
4			
	15		16
		7	

23. [Problem Solving 2]
An archaeologist found some ancient numbers written as follows:

				for 4
⊕	|	|	|	for 28

and ⊕ + + + for 40.

What did ⊕ ⊕ + + equal?

____

24. [Problem Solving 3]
In the addition problem shown, the letters A, B and C stand for different digits. If A = 1 what number does ABC represent?

$$\begin{array}{r} A\ B \\ +\ B\ A \\ \hline A\ A\ C \end{array}$$

ABC = ____

MATHS MATE

YELLOW

Test 6

Covering worksheets 3.5 - 3.8

Name: .....

1. [+ Whole Numbers to 10]

	18	11	14	10	13	9	16	12	15	17
+ 9										

2. [– Whole Numbers to 10]

	7	12	18	9	26	15	30	14	21	13
– 4										

3. [× Whole Numbers to 10]

	9	8	7	4	6	1	10	2	3	5
× 6										

4. [÷ Whole Numbers to 10]

	28	14	63	56	35	42	21	70	49	7
÷ 7										

WORD CODE

Each letter in the code below represents a different digit. When a letter appears more than once, it always represents the same digit. Try to find the code.

ONE
TWO
+ FOUR
SEVEN

0	E
1	
2	
3	
4	U
5	
6	O
7	
8	
9	

Answer: ESWNUTORVF

5. [Large Number +]

2042
583
+1222
_____
[ ]

6. [Large Number –]

600
– 82
_____
[ ]

7. [Powers of 10 ×,÷]

24 000 ÷ 1000 = [ ]

8. [Large Number ×,÷]

[ ]
2) 168

9. [Decimals]

$2.75
+ $5.50
_____
[ ]

10. [Fractions]

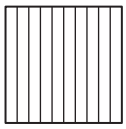
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Use <, = or > to make this statement true.

$\frac{3}{8}$ [ ] $\frac{2}{8}$

11. [Decimals / Fractions / Percentages]

Shade 10% or $\frac{1}{10}$ of this square.



12. [Place Value]

Place in order from smallest to largest:

5.6, 6.6, 6.5, 5.5, 5

[ ]

13. [Operations]

6 + 8 – 3 – 2 = [ ]

14. [Exploring Numbers]

Which number is a prime?

4, 5, 8 or 12 [ ]

15. [Number Patterns / Equations]

[ ] × 10 = 400

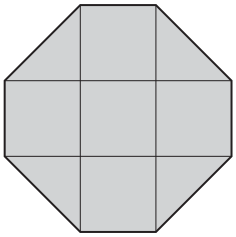
16. [Units of Measurement]
Convert to seconds:

6 min = ____ s

17. [Measuring]
It is 15:35. What will the time be in 4 hours and 30 minutes?
[Use the 24-hour clock.]

____ : ____

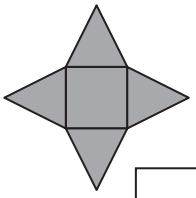
18. [Perimeter / Area]
Find the area of this octagon.



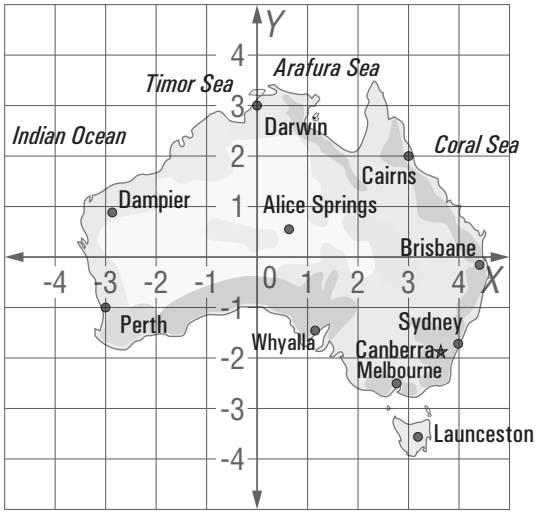
____ cm²

19. [Shapes]
Which shape can this net be used to make?

A) triangular pyramid
B) triangular prism
C) square pyramid



20. [Location / Transformation]
From Darwin you move four units down on the grid and three units left. Which city are you in and what are the coordinates of this city?



city: ____ (,)

21. [Statistics / Probability]
A single die is rolled. What is the probability that it will come up an odd number?

A) one out of six
B) three out of six
C) two out of five

____

22. [Problem Solving 1]
Complete the addition table.

+			
	14		16
		14	
5	12	13	

23. [Problem Solving 2]
An archaeologist found some ancient numbers written as follows:

 for 6

 for 8

and  for 19.

What did  equal?

____

24. [Problem Solving 3]
In the addition problem shown, the letters A, B and C stand for different digits. If B = 9 what number does ABC represent?

$$\begin{array}{r} A\ A\ B \\ +\ A\ B\ C \\ \hline B\ A\ A \end{array}$$

ABC = ____

MATHS MATE

YELLOW

Test 7

Covering worksheets 4.1 - 4.4

Name: .....

1. [+ Whole Numbers to 10]

	15	20	13	29	8	21	16	22	7	14
+ 7										

2. [– Whole Numbers to 10]

	15	29	17	24	10	18	13	21	26	12
– 9										

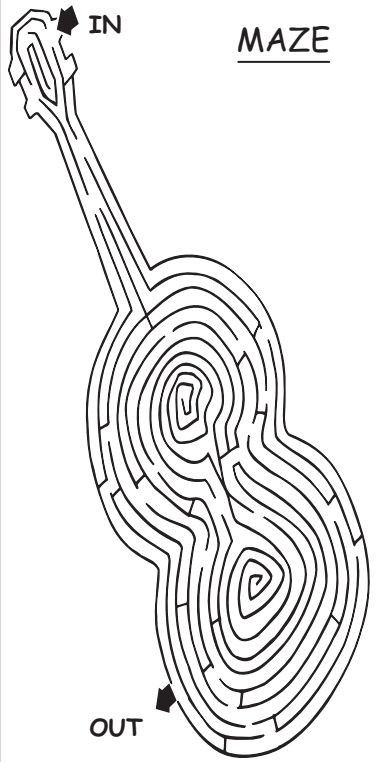
3. [× Whole Numbers to 10]

	4	8	5	7	1	6	2	3	10	9
× 8										

4. [÷ Whole Numbers to 10]

	48	18	30	12	36	60	6	54	42	24
÷ 6										

MAZE



5. [Large Number +]

$$\begin{array}{r} 2155 \\ +\ 578 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 633 \\ -\ 374 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 30 \\ \times\ 100 \\ \hline \square \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 164 \\ \times\ 8 \\ \hline \square \end{array}$$

9. [Decimals]

How much change will you receive from $4.00 if you spend $2.80?

$ ☐

10. [Fractions]

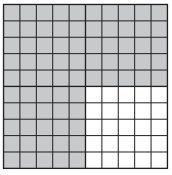
Shade the bars to complete the equivalent fractions.

$\frac{1}{3}$		$\frac{1}{3}$		$\frac{1}{3}$	
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

$\frac{1}{3} = \frac{\square}{6}$

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



☐ %

12. [Place Value]

Round 8539 to the nearest hundred. ☐

13. [Operations]

$6 - (4 - 2) =$ ☐

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 20:

$20 = 2 \times 2 \times$ ☐

15. [Number Patterns / Equations]

$30 \div$ ☐ $= 5$

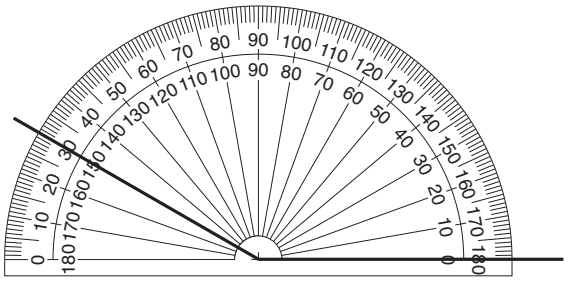
16. [Units of Measurement]

Which is greater?

600 cm or 7 m

17. [Measuring]

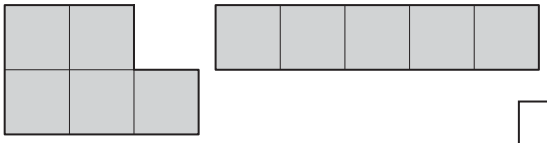
Using the protractor measure the size of the angle shown.



18. [Perimeter / Area]

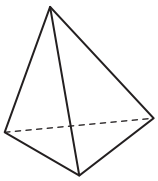
The shapes below have the same:

A) perimeter and area
B) perimeter
C) area



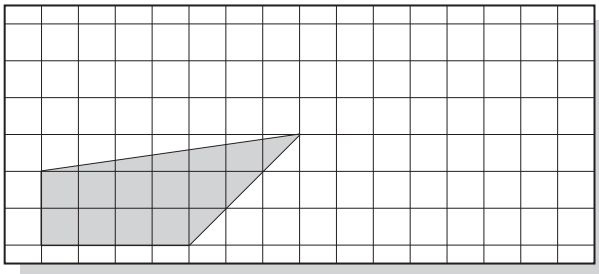
19. [Shapes]

How many faces does a triangular pyramid have?



20. [Location / Transformation]

Redraw this shape after translating it 8 units to the right and 3 units up.



21. [Statistics / Probability]

A bag contains 4 white marbles and 7 green marbles. What is the chance that the first marble drawn will be either green or white?

A) impossible
B) unlikely
C) likely
D) certain

22. [Problem Solving 1]

Lewis and Jess take $50 to the Italian take-away. They order two pasta, one large salad and two bottles of lemonade. How much change do they get?

Menu		
Pizza	one size	$15.50
Pasta	one size	$11.50
Salad	small	$6.50
	large	$9.50
Lemonade	bottle	$4.50
	can	$3.00

$

23. [Problem Solving 2]

I think of a number, double it and then subtract 6. If the result is 24, what was the original number?

24. [Problem Solving 3]

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret number	Cows	Bulls
1st	2 3 4	-	2
2nd	7 3 9	-	-
3rd	4 6 5	2	-

MATHS MATE

YELLOW

Test 7

Covering worksheets 4.1 - 4.4

Name: .....

1. [+ Whole Numbers to 10]

	13	18	22	7	11	16	10	14	25	19
+ 10										

2. [– Whole Numbers to 10]

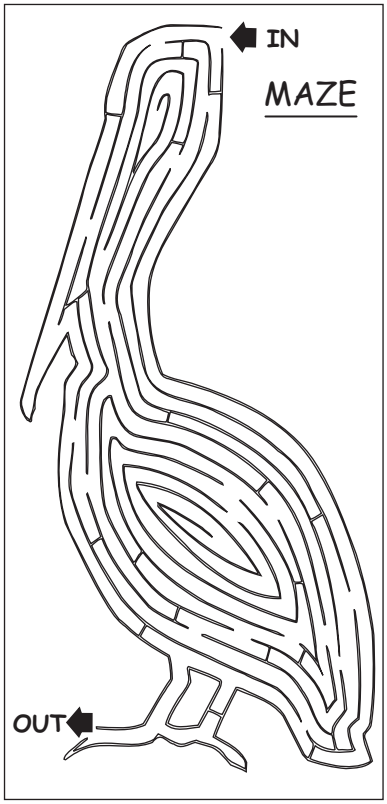
	17	26	8	12	15	23	14	9	20	11
– 4										

3. [× Whole Numbers to 10]

	4	1	3	9	10	5	8	2	6	7
× 7										

4. [÷ Whole Numbers to 10]

	8	72	48	24	64	32	40	80	56	16
÷ 8										



5. [Large Number +]

$$\begin{array}{r} 3289 \\ +\ 377 \\ \hline \square \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 562 \\ -\ 385 \\ \hline \square \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 40 \\ \times\ 100 \\ \hline \square \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 187 \\ \times\ 9 \\ \hline \square \end{array}$$

9. [Decimals]

How much change will you receive from $5.00 if you spend $2.60?

$ ☐

10. [Fractions]

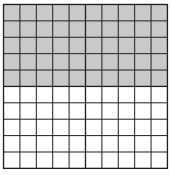
Shade the bars to complete the equivalent fractions.

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

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

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



☐ %

12. [Place Value]

Round 763 to the nearest ten.

☐

13. [Operations]

$8 - (3 - 2) =$ ☐

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 36:

$36 = 2 \times \square \times 6$

15. [Number Patterns / Equations]

$44 \div \square = 4$

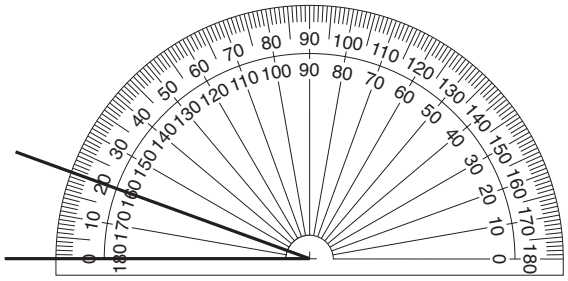
16. [Units of Measurement] *

Which is greater?

4000 g or 5 kg

17. [Measuring]

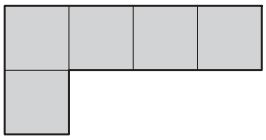
Using the protractor measure the size of the angle shown.

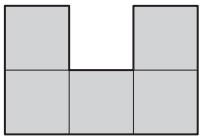


18. [Perimeter / Area]

The shapes below have the same:

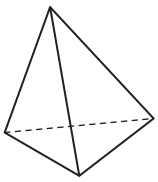
A) perimeter and area
B) perimeter
C) area





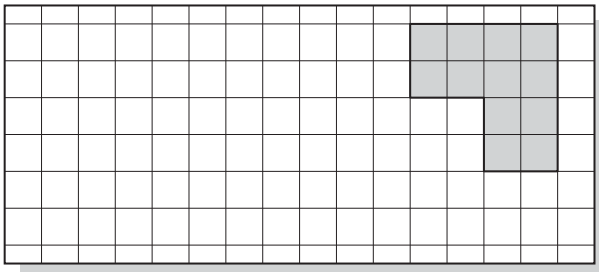
19. [Shapes]

How many edges does a triangular pyramid have?



20. [Location / Transformation]

Redraw this shape after translating it 9 units to the left and 1 unit down.



21. [Statistics / Probability]

A bag contains 10 white marbles and 6 green marbles. What is the chance that the first marble drawn will be white?

A) impossible
B) unlikely
C) likely
D) certain

22. [Problem Solving 1]

Lin and Naomi take $40 to the Italian take-away. They order one pizza, one pasta and two cans of lemonade. How much change do they get?

Menu		
Pizza	one size	$15.50
Pasta	one size	$11.50
Salad	small	$6.50
	large	$9.50
Lemonade	bottle	$4.50
	can	$3.00

$

23. [Problem Solving 2]

I think of a number, subtract 10 and then multiply by 2. If the result is 24, what was the original number?

24. [Problem Solving 3]

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret number	Cows	Bulls
1st	3 5 7	-	1
2nd	5 7 2	-	1
3rd	4 6 9	1	-
4th	2 3 4	3	-

MATHS MATE

YELLOW

Test 8

Covering worksheets 4.5 - 4.8

Name: .....

1. [+ Whole Numbers to 10]

	11	12	23	15	8	20	9	14	17	26
+ 5										

2. [– Whole Numbers to 10]

	11	17	26	13	14	28	15	20	29	22
– 6										

3. [× Whole Numbers to 10]

	10	6	4	5	2	1	7	3	8	9
× 8										

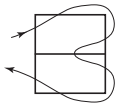
4. [÷ Whole Numbers to 10]

	100	40	70	80	50	90	60	20	10	30
÷ 10										

FIND A PATH

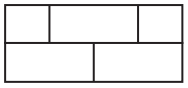
Try to draw a single path which cuts through each of the line segments in the sketches below only once.

e.g.



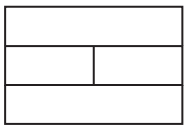
Which sketch below has no such path?

a)



b)

c)



Answer: a)

5. [Large Number +]

$$\begin{array}{r} 2013 \\ 246 \\ +\,1147 \\ \hline \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 9506 \\ -\;\;129 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$600 \div 10 =$

8. [Large Number ×,÷]

$$\begin{array}{r} 15 \\ \times\,84 \\ \hline \end{array}$$

9. [Decimals]

$$\begin{array}{r} 5.24 \\ -\;1.72 \\ \hline \end{array}$$

10. [Fractions]

$\frac{6}{8} - \frac{3}{8} =$

11. [Decimals / Fractions / Percentages]

Write 0.25 as a percentage.

%

12. [Place Value]

Estimate the product of 28 and 33 by rounding to the nearest ten before multiplying.

13. [Operations]

$18 \div (3 + 6) =$

14. [Exploring Numbers]

Which of the numbers 2, 3, 5, 7 and 10 are factors of 3000?

15. [Number Patterns / Equations]

2, 3, 5, 8, 12, __ , __

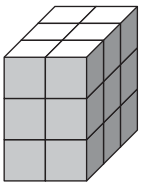
16. [Units of Measurement]

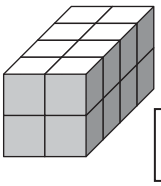
Circle the longest time.

1 h 6000 s 80 min

17. [Measuring]

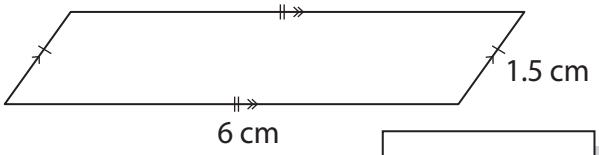
Which prism has the lesser volume?

A) 

B) 

18. [Perimeter / Area]

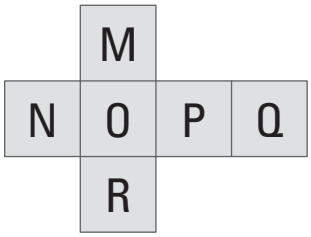
Find the perimeter of the parallelogram.



cm

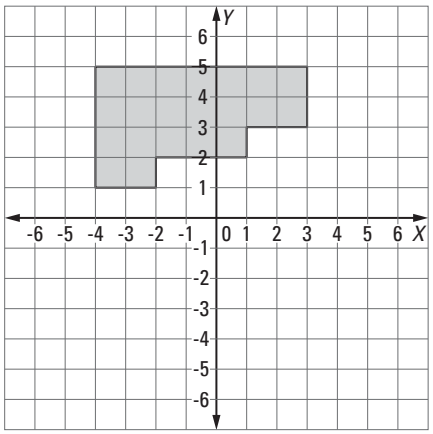
19. [Shapes]

This net forms a cube when folded.
Which letter is on the face opposite to letter R?



20. [Location / Transformation]

Redraw this shape after reflecting it in the *X*-axis.

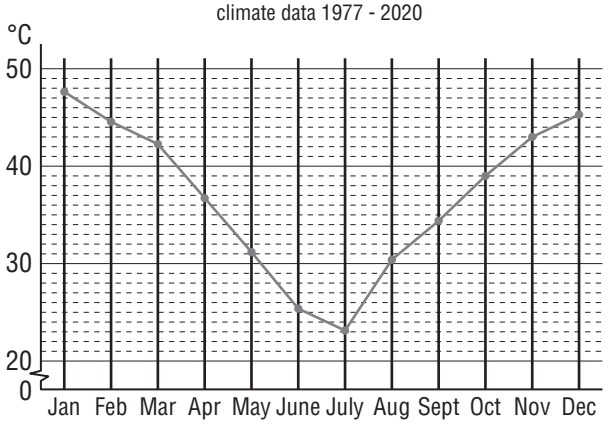


21. [Statistics / Probability]

How many monthly records in Adelaide's high temperatures are above 40°C?

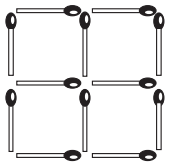
ADELAIDE - Record High Temperatures for Each Month

climate data 1977 - 2020



22. [Problem Solving 1]

Remove 2 matches to leave 2 squares.



23. [Problem Solving 2]

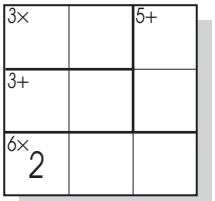
Which bag of almonds is the best value?

A) 300 g for $15.00

B) 200 g for $11.00

24. [Problem Solving 3]

Fill in the big square so that each row and each column contain the numbers from 1, 2 and 3. The digits within each thicker outlined area, when combined using the given operation, must equal the given number.



MATHS MATE

YELLOW

Test 8

Covering worksheets 4.5 - 4.8

Name: .....

1. [+ Whole Numbers to 10]

	8	15	26	10	13	19	22	24	11	7
+ 7										

2. [– Whole Numbers to 10]

	24	12	10	15	19	17	28	13	11	16
– 8										

3. [× Whole Numbers to 10]

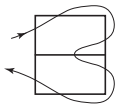
	7	2	8	9	6	10	4	1	3	5
× 3										

4. [÷ Whole Numbers to 10]

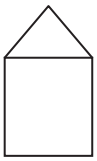
	45	18	9	90	27	63	54	36	81	72
÷ 9										

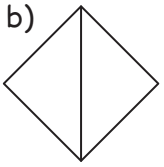
FIND A PATH

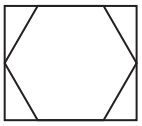
Try to draw a single path which cuts through each of the line segments in the sketches below only once.

e.g. 

Which sketch below has no such path?

a) 

b) 

c) 

Answer: c)

5. [Large Number +]

$$\begin{array}{r} 3064 \\ 3244 \\ +\ 1253 \\ \hline \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 1703 \\ -\ \ 238 \\ \hline \end{array}$$

7. [Powers of 10 ×,÷]

$900 \div 10 =$

8. [Large Number ×,÷]

$$\begin{array}{r} 63 \\ \times\ 24 \\ \hline \\ \hline \end{array}$$

9. [Decimals]

$$\begin{array}{r} 8.75 \\ -\ 5.69 \\ \hline \end{array}$$

10. [Fractions]

$\frac{9}{10} - \frac{7}{10} =$

11. [Decimals / Fractions / Percentages]

Write 75% in decimal form.

12. [Place Value]

Estimate the product of 19 and 18 by rounding to the nearest ten before multiplying.

13. [Operations]

$21 \div (3 + 4) =$

14. [Exploring Numbers]

Which of the numbers 2, 3, 4, 5 and 11 are factors of 2013?

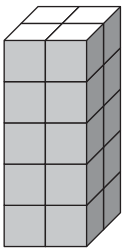
15. [Number Patterns / Equations]

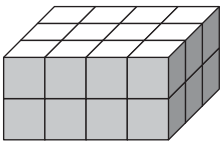
3, 4, 6, 9, 13, __ , __

16. [Units of Measurement]
Circle the shortest time.

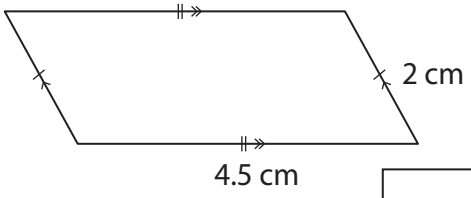
1 month 40 days 7 weeks

17. [Measuring]
Which prism has the lesser volume?

A) 

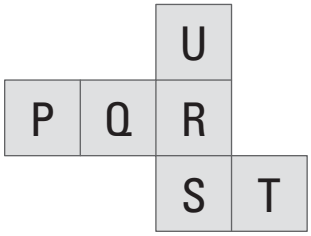
B) 

18. [Perimeter / Area]
Find the perimeter of the parallelogram.

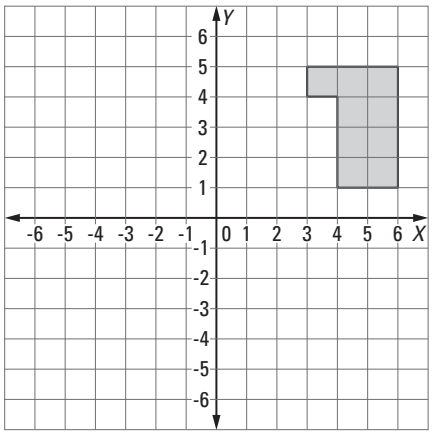


cm

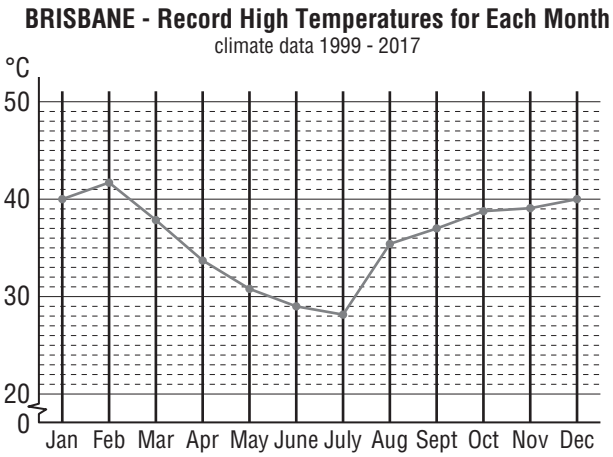
19. [Shapes]
This net forms a cube when folded.
Which letter is on the face opposite to letter Q?



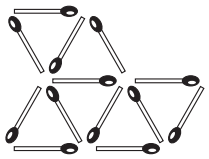
20. [Location / Transformation]
Redraw this shape after reflecting it in the *Y*-axis.



21. [Statistics / Probability]
How many monthly records in Brisbane's high temperatures are 40°C or above?



22. [Problem Solving 1]
Remove 3 matches to leave 3 triangles.

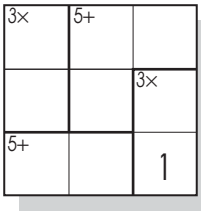


23. [Problem Solving 2]
Which jam jar is the best value?

A) 500 g for $9.00

B) 300 g for $6.00

24. [Problem Solving 3]
Fill in the big square so that each row and each column contain the numbers from 1, 2 and 3. The digits within each thicker outlined area, when combined using the given operation, must equal the given number.



MATHS MATE

Teacher Resource

MATHS MATE

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]

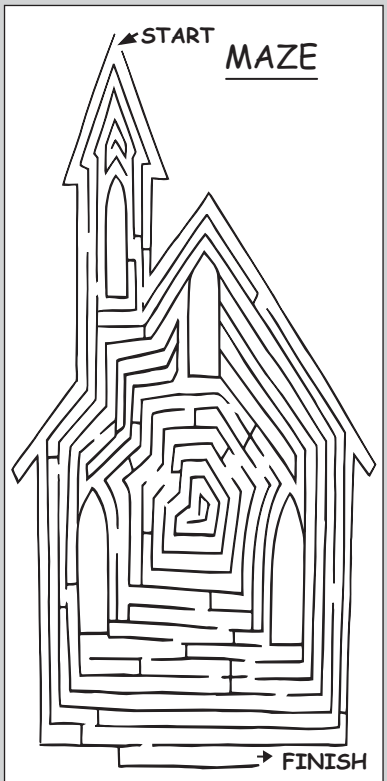
	11	6	8	5	12	13	4	9	10	7
– 3	8	3	5	2	9	10	1	6	7	4

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



5. [Large Number +]

$$\begin{array}{r} 431 \\ +\,206 \\ \hline 637 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 849 \\ -\,332 \\ \hline 517 \end{array}$$

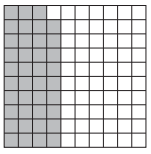
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 193 \\ \times\ 10 \\ \hline 1930 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 232 \\ \times\ 3 \\ \hline 696 \end{array}$$

9. [Decimals]



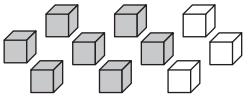
3 tenths +

9 hundredths =

0.39

10. [Fractions]

What fraction of the cubes is shaded?



$\frac{7}{10}$

11. [Decimals / Fractions / Percentages]

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]

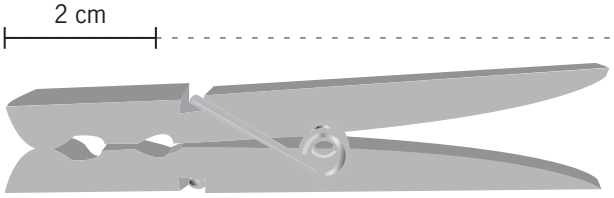
Choose the appropriate unit: centimetres, metres or kilometres.

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

kilometres

17. [Measuring]

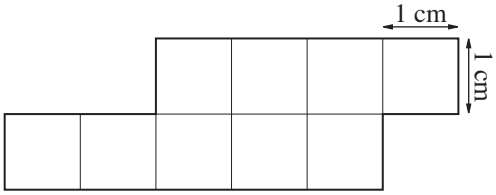
Estimate the length of the clothes peg.



accept 7 to 9 → 8 cm

18. [Perimeter / Area]

Find the perimeter of this shape.

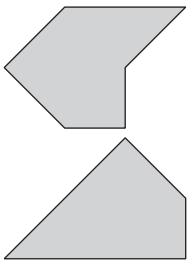


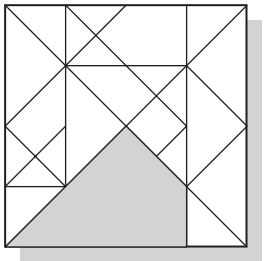
16 cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.

[Same size and orientation.]

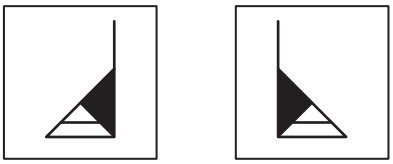




20. [Location / Transformation]

Which movement has transformed this shape?

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



A

21. [Statistics / Probability]

Which coloured medal did Australia win most at the 2020 Tokyo Olympics?

OLYMPIC MEDALS - AUSTRALIA
(Tokyo 2020)

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?

16

23. [Problem Solving 2]

Fill in the missing digits in the subtraction.

	8	6	9
–	3	3	5
	5	3	4

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	10	8	9	7	4	11	5	12	13	6

2. [– Whole Numbers to 10]

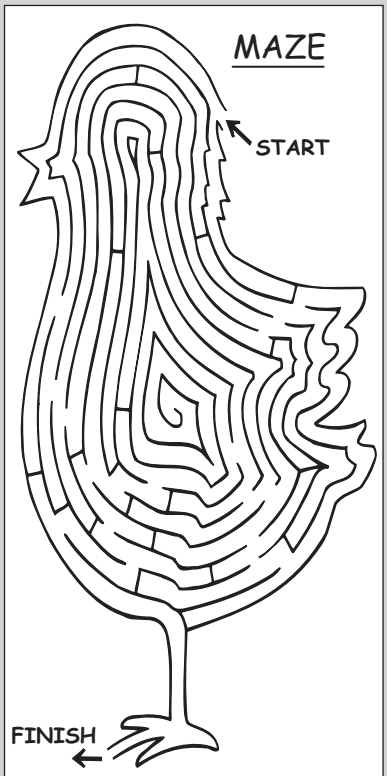
	13	11	9	14	15	6	7	12	10	8
– 5	8	6	4	9	10	1	2	7	5	3

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



5. [Large Number +]

$$\begin{array}{r} 542 \\ +\,203 \\ \hline 745 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 976 \\ -\,731 \\ \hline 245 \end{array}$$

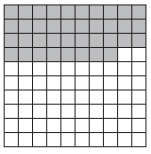
7. [Powers of 10 ×,÷]

$$\begin{array}{r} 368 \\ \times\ 10 \\ \hline 3680 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 123 \\ \times\ 3 \\ \hline 369 \end{array}$$

9. [Decimals]

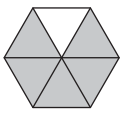


3 tenths +

8 hundredths = 0.38

10. [Fractions]

What fraction of the hexagon is shaded?



$\frac{5}{6}$

11. [Decimals / Fractions / Percentages]

2 tenths = 20 hundredths

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, 19 , 22

16. [Units of Measurement]

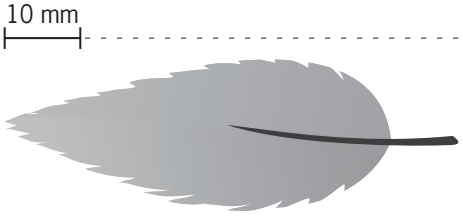
Choose the appropriate unit: centimetres, metres or kilometres.

"One of the tallest waterfalls in New Zealand is Sutherland Falls with a height of 580 ....."

metres

17. [Measuring]

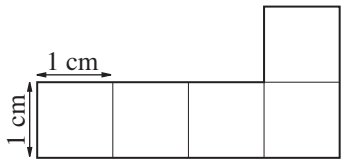
Estimate the length of the leaf.



accept 55 to 65 → 60 mm

18. [Perimeter / Area]

Find the perimeter of this shape.

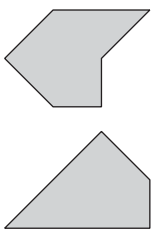


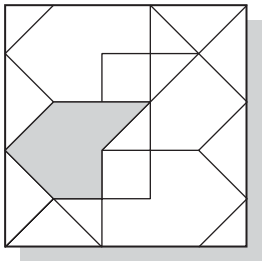
12 cm

19. [Shapes]

One of these shapes is hidden in the maze. Find it and colour it in.

[Same size and orientation.]

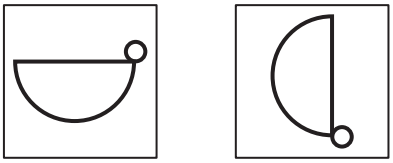




20. [Location / Transformation]

Which movement has transformed this shape?

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

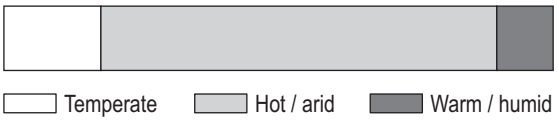


C

21. [Statistics / Probability]

What is the largest climatic zone in Australia?

Australian Climatic Zone by Size



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.

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

24. [Problem Solving 3]

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

9 [×] 5 [+] 5 = 50

MATHS MATE

YELLOW

Test 2

Covering worksheets 1.5 - 1.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

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

DECODE THESE INITIALS

Each statement contains the initials of missing words. Complete the words so that the statements make sense.

e.g. H. in a D. = 24
Hours in a Day = 24

Try your skill on these:

L. of the A. = 26
S. on the A. F. = 6
H. on a G. C. = 18
B. M. (S. H. T. R.) = 3
S. on a C. B. = 64

Answer: Letters, Alphabet / Stars, Australian, Flag / Holes, Golf, Course / Blind, Mice, See, How, They, Run / Squares, Chess, Board.

5. [Large Number +]

$$\begin{array}{r} 2342 \\ 1132 \\ +\ 1325 \\ \hline \end{array}$$

4799

6. [Large Number –]

$$\begin{array}{r} 836 \\ -\ 212 \\ \hline \end{array}$$

624

7. [Powers of 10 ×,÷]

$540 \div 10 =$

54

8. [Large Number ×,÷]

$$3\overline{)60} = 20$$

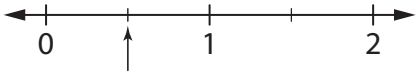
9. [Decimals]

Write as a decimal: three and eight tenths.

3.8

10. [Fractions]

Name the fraction shown by the arrow on the number line.



$\frac{1}{2}$

11. [Decimals / Fractions / Percentages]

Write $\frac{17}{100}$ as a decimal.

0.17

12. [Place Value]

In which number does the digit 2 have a smaller value?

A) 1294
B) 1723

B

13. [Operations]

$8 \times 4 =$ 4 $\times 8$

14. [Exploring Numbers]

Write the number 426 in words.

four hundred and twenty-six

15. [Number Patterns / Equations]

$17 +$ 6 $= 23$

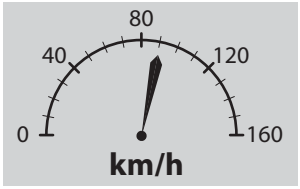
16. [Units of Measurement]

Convert to metres:

1 kilometre = **1000 m**

17. [Measuring]

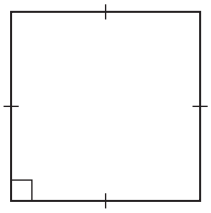
What speed is shown by the arrow on the scale?



90 km/h

18. [Perimeter / Area]

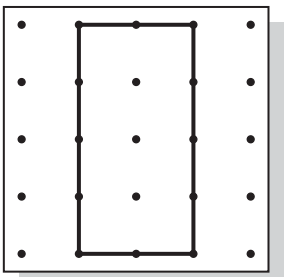
Using a ruler, find the perimeter of the square in centimetres.



10 cm

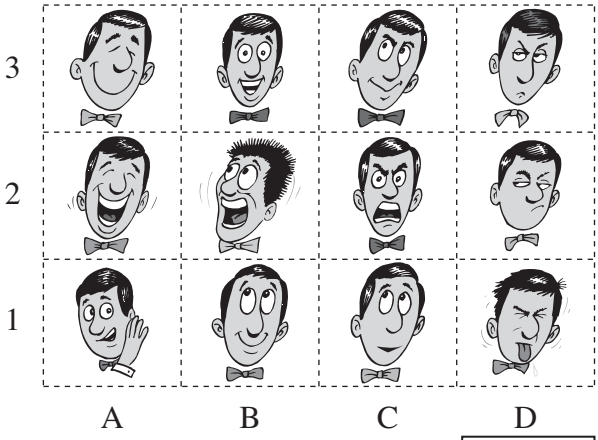
19. [Shapes]

Draw a rectangle on the dotted grid. Make sure that all the vertices are on a dot.



20. [Location / Transformation]

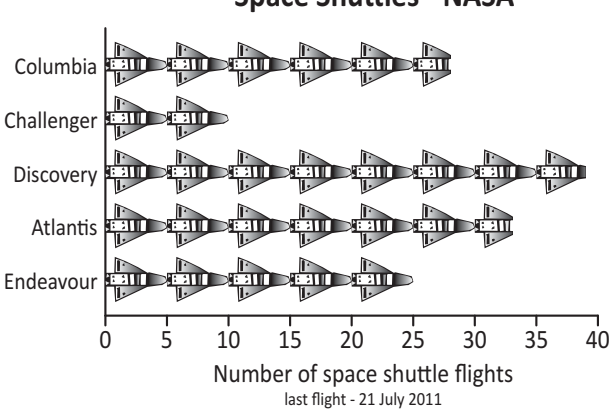
Where is the whispering person located on the grid?



A1

21. [Statistics / Probability]

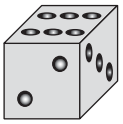
Which space shuttle completed 28 space flights?



Columbia

22. [Problem Solving 1]

What is the sum of the numbers on the three hidden faces of the die?



10

23. [Problem Solving 2]

A frog falls down a well that is 16 m deep. One minute it leaps up 4 m, the next minute it rests and slips back 2 m. How long does it take to reach the top of the well if it keeps leaping and slipping in this way?

13 min

24. [Problem Solving 3]

Fill in the missing numbers to produce correct equations in every row and column.

80	−	70	=	10
+		−		+
10	+	50	=	60
=		=		=
90	−	20	=	70

MATHS MATE

YELLOW

Test 2

Covering worksheets 1.5 - 1.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

	9	7	8	6	5	3	4	1	2	10
× 1	9	7	8	6	5	3	4	1	2	10

4. [÷ Whole Numbers to 10]

	64	40	8	80	72	56	24	32	16	48
÷ 8	8	5	1	10	9	7	3	4	2	6

DECODE THESE INITIALS

Each statement contains the initials of missing words. Complete the words so that the statements make sense.

e.g. C. in a S. = 13
Cards in a Suit = 13

Try your skill on these:

D. at which W. F. = 0
B. B. in a P. = 4 and 20
W. on a U. = 1
S. of the Z. = 12
Y. in a M. = 1000

Answer: Degrees, Water, Freezes / Blackbirds, Baked, Pie / Wheel, Unicycle / Signs, Zodiac / Years, Millennium.

5. [Large Number +]

$$\begin{array}{r} 5322 \\ 2101 \\ +\,2316 \\ \hline \end{array}$$

9739

6. [Large Number –]

$$\begin{array}{r} 967 \\ -\,224 \\ \hline \end{array}$$

743

7. [Powers of 10 ×,÷]

620 ÷ 10 =

62

8. [Large Number ×,÷]

$$4\overline{)40} = 10$$

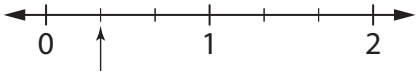
9. [Decimals]

Write as a decimal:
five and six tenths.

5.6

10. [Fractions]

Name the fraction shown by the arrow on the number line.



$\frac{1}{3}$

11. [Decimals / Fractions / Percentages]

Write $\frac{45}{100}$ as a decimal.

0.45

12. [Place Value]

In which number does the digit 4 have a smaller value?

A) 7642
B) 1450

A

13. [Operations]

3 × 7 = 7 × 3

14. [Exploring Numbers]

Write the number 318 in words.

three hundred and eighteen

15. [Number Patterns / Equations]

11 + 18 = 29

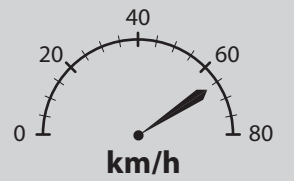
16. [Units of Measurement]

Convert to millimetres:

1 metre = **1000** mm

17. [Measuring]

What speed is shown by the arrow on the scale?



65 km/h

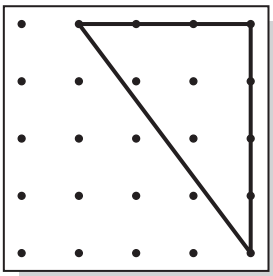
18. [Perimeter / Area]

Using a ruler, find the perimeter of the square in millimetres.

40 mm

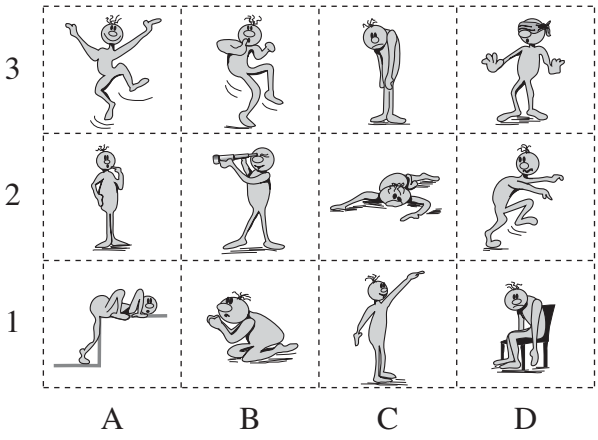
19. [Shapes]

Draw a right-angled triangle on the dotted grid. Make sure that all the vertices are on a dot.



20. [Location / Transformation]

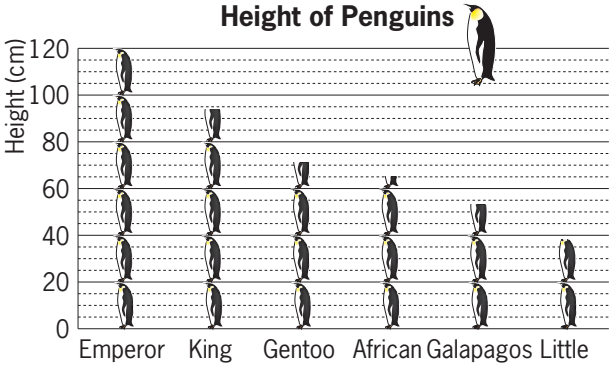
Where is the person with the telescope located on the grid?



B2

21. [Statistics / Probability]

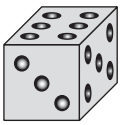
What is the height of an African penguin?



65 cm

22. [Problem Solving 1]

What is the sum of the numbers on the three hidden faces of the die?



7

23. [Problem Solving 2]

A frog falls down a well that is 8 m deep. One minute it leaps up 3 m, the next minute it rests and slips back 2 m. How long does it take to reach the top of the well if it keeps leaping and slipping in this way?

11 min

24. [Problem Solving 3]

Fill in the missing numbers to produce correct equations in every row and column.

8	–	3	=	5
+		–		+
1	+	2	=	3
=		=		=
9	–	1	=	8

MATHS MATE

YELLOW

Test 3

Covering worksheets 2.1 - 2.4

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

3. [× Whole Numbers to 10]

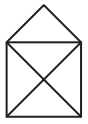
	1	7	3	6	5	8	4	9	2	10
× 4	4	28	12	24	20	32	16	36	8	40

4. [÷ Whole Numbers to 10]

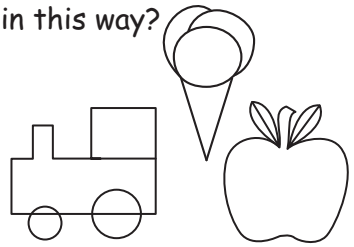
	30	6	9	15	27	24	21	12	18	3
÷ 3	10	2	3	5	9	8	7	4	6	1

JUST A TRACE

The envelope can be traced without lifting your pen from the paper and without going over any line more than once. Can you do it?



Which diagram below can't be traced in this way?



Answer: Q1) Start in either of bottom corners and draw inside lines first or last.
Q2) Apple.

5. [Large Number +]

$$\begin{array}{r} 145 \\ +\,239 \\ \hline 384 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 80 \\ -\,3 \\ \hline 77 \end{array}$$

7. [Powers of 10 ×,÷]

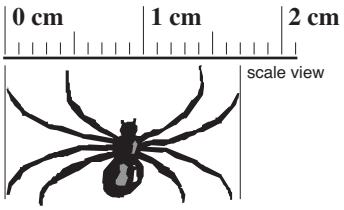
$$\begin{array}{r} 84 \\ \times\,100 \\ \hline 8400 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 16 \\ \times\,5 \\ \hline 80 \end{array}$$

9. [Decimals]

What is the width of the spider?



1.7 cm

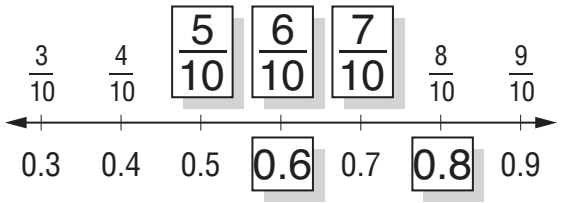
10. [Fractions]

If three quarters of the money was spent, what fraction of the money is left?

$\frac{1}{4}$

11. [Decimals / Fractions / Percentages]

Complete the number line.



12. [Place Value]

Place in order from smallest to largest:

6766, 6776, 6676, 6777

6676, 6766, 6776, 6777

13. [Operations]

$4 + \boxed{0} = 4$

14. [Exploring Numbers]

Write 8013 in words.

eight thousand and thirteen

15. [Number Patterns / Equations]

32, 28, 24, 20, 16, 12 , 8

16. [Units of Measurement]

Convert to metres:

2 km = 2000 m

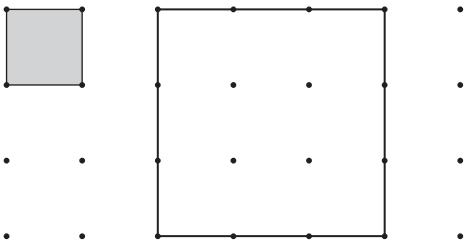
17. [Measuring]

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

greater than

18. [Perimeter / Area]

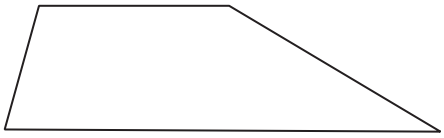
How many small squares are needed to cover the larger square?



9

19. [Shapes]

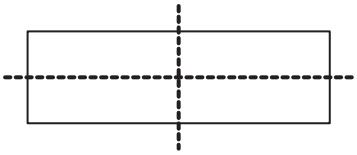
How many interior angles does a trapezium have?



4

20. [Location / Transformation]

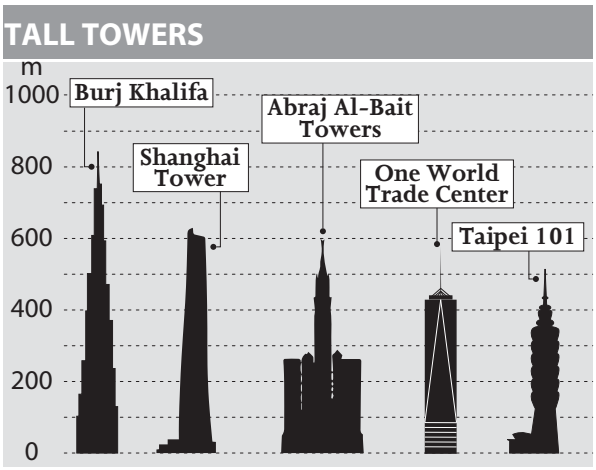
Draw the lines of symmetry through the rectangle. How many lines of symmetry does the rectangle have?



2

21. [Statistics / Probability]

Which of the world's tall towers is closest to 500 metres high?



Taipei 101

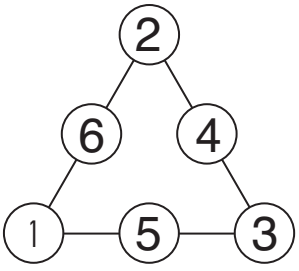
22. [Problem Solving 1]

How many numbers between 1 and 50 are divisible by 6?

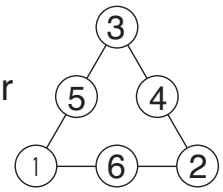
8

23. [Problem Solving 2]

Fill in the digits 2, 3, 4, 5 and 6 so that the sum on every side of the triangle is 9.



or



24. [Problem Solving 3]

Four committee members shook hands with each other at the start of a meeting. How many handshakes took place?

6

MATHS MATE

YELLOW

Test 3

Covering worksheets 2.1 - 2.4

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	11	16	15	17	18	10	13	9	14	12
– 8	3	8	7	9	10	2	5	1	6	4

3. [× Whole Numbers to 10]

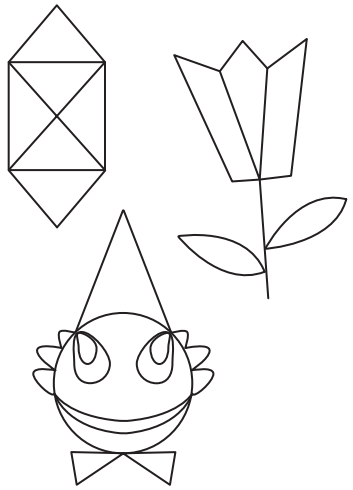
	5	7	1	6	2	3	10	9	4	8
× 3	15	21	3	18	6	9	30	27	12	24

4. [÷ Whole Numbers to 10]

	3	6	2	8	4	1	10	5	7	9
÷ 1	3	6	2	8	4	1	10	5	7	9

JUST A TRACE

Which of these objects can **not** be traced over, without lifting your pen?
(Note: You may not trace over the same path twice.)



Answer: Flower

5. [Large Number +]

$$\begin{array}{r} 348 \\ +\,128 \\ \hline 476 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 80 \\ -\,7 \\ \hline 73 \end{array}$$

7. [Powers of 10 ×,÷]

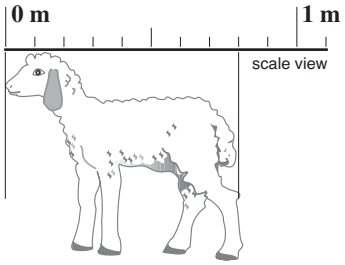
$$\begin{array}{r} 37 \\ \times\,100 \\ \hline 3700 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 25 \\ \times\,6 \\ \hline 150 \end{array}$$

9. [Decimals]

What is the length of the lamb?



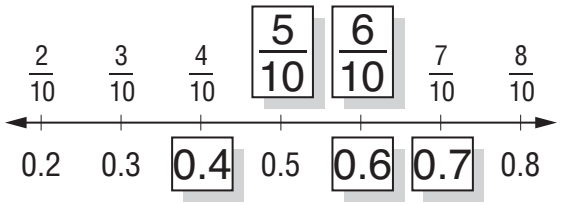
0.8 m

10. [Fractions]

If two fifths of the race is over, what fraction of the race remains? $\frac{3}{5}$

11. [Decimals / Fractions / Percentages]

Complete the number line.



12. [Place Value]

Place in order from largest to smallest:

4554, 4545, 4455, 4555

4555, 4554, 4545, 4455

13. [Operations]

6 × 1 = 6

14. [Exploring Numbers]

Write 6015 in words.

six thousand and fifteen

15. [Number Patterns / Equations]

40, 34, 28, 22, 16, **10 , 4**

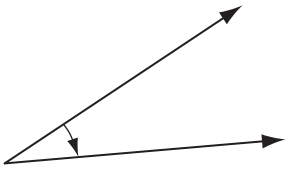
16. [Units of Measurement]

Convert to millimetres:

8 m = **8000 mm**

17. [Measuring]

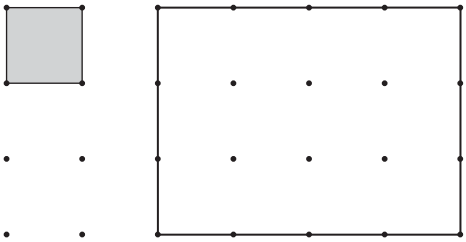
Is the angle "less than", "equal to" or "greater than" a right angle?



less than

18. [Perimeter / Area]

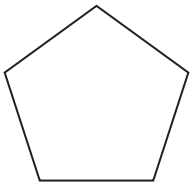
How many small squares are needed to cover the larger rectangle?



12

19. [Shapes]

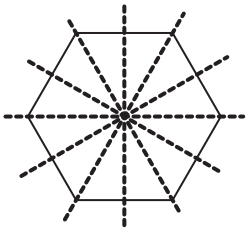
How many sides does a pentagon have?



5

20. [Location / Transformation]

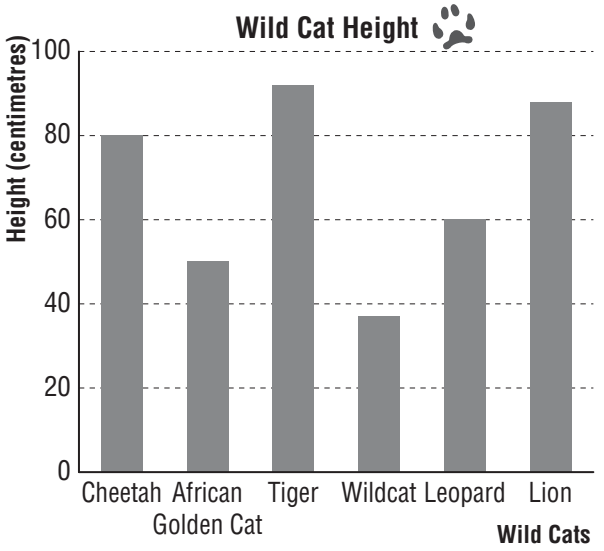
Draw the lines of symmetry through the hexagon. How many lines of symmetry does the hexagon have?



6

21. [Statistics / Probability]

Which of the wild cat species shown below is the tallest?



tiger

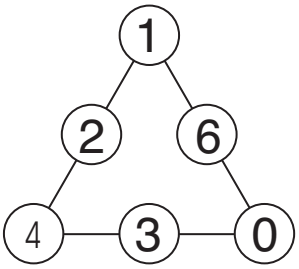
22. [Problem Solving 1]

How many numbers between 1 and 45 are divisible by 7?

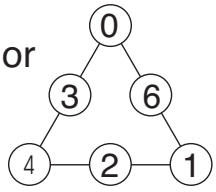
6

23. [Problem Solving 2]

Fill in the digits 0, 1, 2, 3 and 6 so that the sum on every side of the triangle is 7.



or



24. [Problem Solving 3]

A flag is to be prepared using a star of one colour sewn onto a background of a different colour. The only materials available are green cloth, red cloth, blue cloth and white cloth. How many different flags are possible?

12

MATHS MATE

YELLOW

Test 4

Covering worksheets 2.5 - 2.8

Name: ....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

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

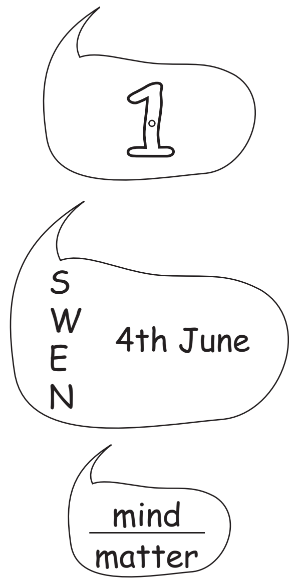
3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

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

HIDDEN MEANINGS



Answer:
A hole in one
News up-date
Mind over matter

5. [Large Number +]

$$\begin{array}{r} 646 \\ +\ 337 \\ \hline 983 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 74 \\ -\ 25 \\ \hline 49 \end{array}$$

7. [Powers of 10 ×,÷]

$6600 \div 100 =$ **66**

8. [Large Number ×,÷]

$3\,\overline{)\,3669}$ = **1223**

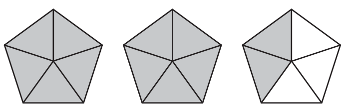
9. [Decimals]

Write these cents in dollars:

455¢ = **$ 4.55**

10. [Fractions]

Name the mixed number represented by the shaded pentagons.



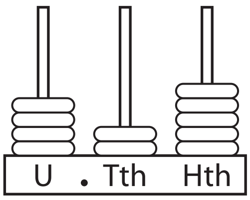
$2\frac{2}{5}$

11. [Decimals / Fractions / Percentages]

Write 0.9 as a fraction. $\frac{9}{10}$

12. [Place Value]

Write the decimal number.



4.25

13. [Operations]

$14 - 2 + 5 =$ **17**

14. [Exploring Numbers]

Using the digits 1, 2, 3 and 8 write an even number between 3800 and 3850.

3812

15. [Number Patterns / Equations]

$17 -$ **13** $= 4$

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

16. [Units of Measurement]

Convert to grams:

8 kg = **8000 g**

17. [Measuring]

What time in the evening is shown on this clock?

i) 12-hour time format (AM or PM):

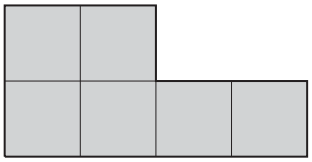
7 : 25 PM

ii) 24-hour time format:

19 : 25

18. [Perimeter / Area]

Find the area of this shape.



Area = 1 cm^2

6 cm^2

19. [Shapes]

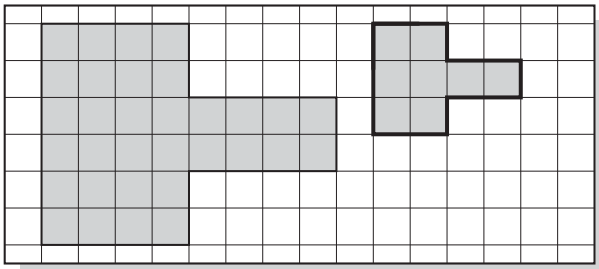
This triangle has:

A) two sides parallel
B) all sides of equal length
C) no line of symmetry
D) two perpendicular sides

B

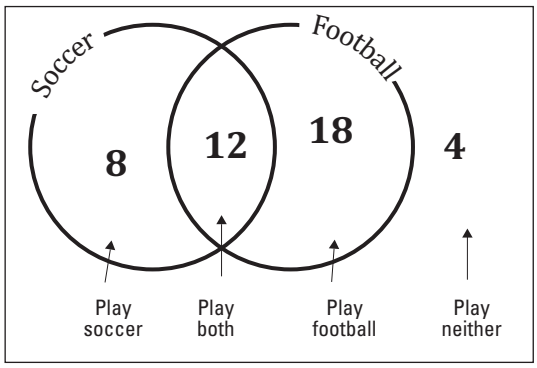
20. [Location / Transformation]

Redraw this shape after halving its size.



21. [Statistics / Probability]

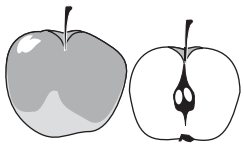
How many of the boys surveyed play only soccer?



8

22. [Problem Solving 1]

What is the weight of six apples if one and a half apples of the same size weigh one hundred and fifty grams?



600 g

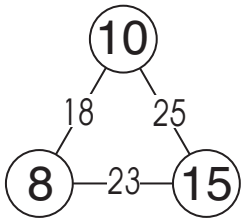
23. [Problem Solving 2]

In a stage production of 'Swan Lake' there were 46 dancers. How many men were in the show if there were 30 more women than men?

8

24. [Problem Solving 3]

Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

YELLOW

Test 4

Covering worksheets 2.5 - 2.8

Name: .....

1. [+ Whole Numbers to 10]

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

2. [– Whole Numbers to 10]

	18	15	19	12	14	20	17	13	11	16
– 7	11	8	12	5	7	13	10	6	4	9

3. [× Whole Numbers to 10]

	9	1	7	2	10	5	4	8	3	6
× 10	90	10	70	20	100	50	40	80	30	60

4. [÷ Whole Numbers to 10]

	3	24	27	9	21	18	15	30	12	6
÷ 3	1	8	9	3	7	6	5	10	4	2

HIDDEN MEANINGS

stand
i

sgge
egsg
segg
gegs

T
O
U
C
H

Answer:
I understand
Scrambled eggs
Touch down

5. [Large Number +]

$$\begin{array}{r} 355 \\ +\ 436 \\ \hline 791 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 83 \\ -\ 46 \\ \hline 37 \end{array}$$

7. [Powers of 10 ×,÷]

2500 ÷ 100 = **25**

8. [Large Number ×,÷]

2143

$2\overline{)4286}$

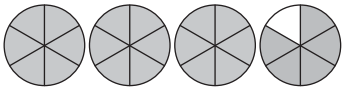
9. [Decimals]

Write these cents in dollars:

715¢ = **$ 7.15**

10. [Fractions]

Name the mixed number represented by the shaded circles.



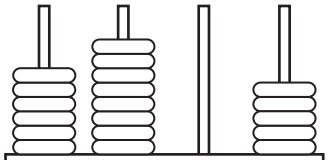
$3\frac{5}{6}$

11. [Decimals / Fractions / Percentages]

Write 0.81 as a fraction. $\frac{81}{100}$

12. [Place Value]

Write the decimal number.



6.805

13. [Operations]

16 – 3 + 2 = **15**

14. [Exploring Numbers]

Using the digits 3, 6, 7 and 8 write an even number between 6350 and 6400.

6378

15. [Number Patterns / Equations]

13 – **6** = 7

16. [Units of Measurement]
Convert to kilograms:

6000 g = **6 kg**

17. [Measuring]
What time in the morning is shown on this clock?

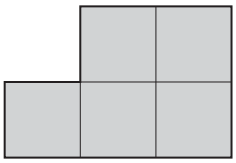
i) 12-hour time format (AM or PM):

3 : 30 AM

ii) 24-hour time format:

03 : 30

18. [Perimeter / Area]
Find the area of this shape.



Area = 1 cm²

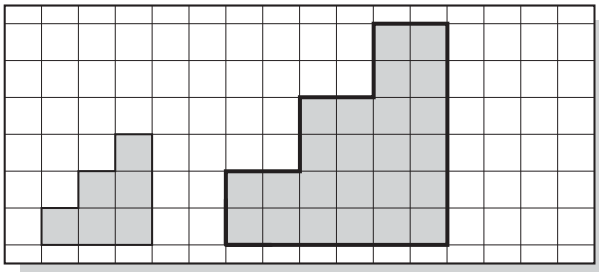
5 cm²

19. [Shapes]
This trapezium has:

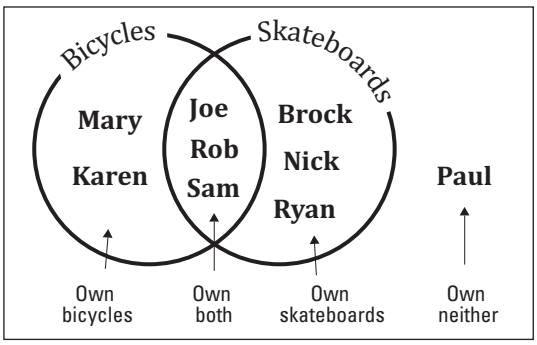
A) two perpendicular sides
B) all sides of equal length
C) one line of symmetry
D) two parallel sides

D

20. [Location / Transformation]
Redraw this shape after doubling its size.

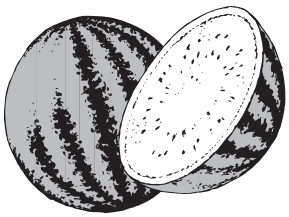


21. [Statistics / Probability]
Name the children who own bicycles, but not skateboards.



Mary and Karen

22. [Problem Solving 1]
What is the weight of six watermelons if one and a half watermelons of the same size weigh six kilograms?

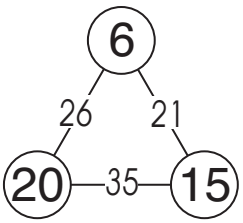


24 kg

23. [Problem Solving 2]
I bought a 270 mL drink for each of my two children. Rebecca couldn't finish her drink so she gave the remainder to David. How much did David drink if he ended up having exactly twice as much drink as Rebecca?

360 mL

24. [Problem Solving 3]
Enter a number in each circle so that the number on each line equals the sum of the numbers at each end.



MATHS MATE

YELLOW

Test 5

Covering worksheets 3.1 - 3.4

Name: .....

1. [+ Whole Numbers to 10]

	15	10	8	13	9	12	11	17	16	14
+ 8	23	18	16	21	17	20	19	25	24	22

2. [– Whole Numbers to 10]

	20	8	22	16	17	15	14	9	13	11
– 7	13	1	15	9	10	8	7	2	6	4

3. [× Whole Numbers to 10]

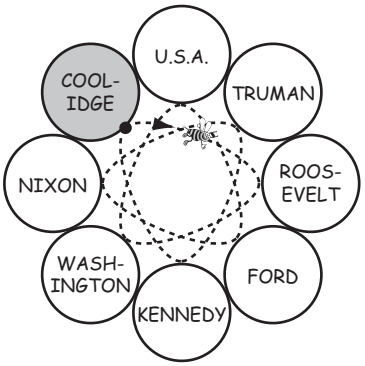
	3	5	9	8	7	4	6	1	10	2
× 5	15	25	45	40	35	20	30	5	50	10

4. [÷ Whole Numbers to 10]

	27	81	90	45	72	18	54	63	36	9
÷ 9	3	9	10	5	8	2	6	7	4	1

SPELLING BEE

Starting on Coolidge, follow the Bee's path as you spell the name of one of the U.S. Presidents shown, one letter per bounce. The clever Bee will end up on the chosen President.



5. [Large Number +]

$$\begin{array}{r} 2472 \\ +\ 175 \\ \hline 2647 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 682 \\ -\ 407 \\ \hline 275 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 20 \\ \times 1000 \\ \hline 20000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 250 \\ \times\ 9 \\ \hline 2250 \end{array}$$

9. [Decimals]

Which of the following are true?

A) 10.0 = 10
B) 0.4 = 0.04
C) 1.20 = 0.120
D) 0.6 = 0.6000

A and D

10. [Fractions]

Shade to complete the sum.

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

11. [Decimals / Fractions / Percentages]

Write the mixed number $7\frac{4}{10}$ as a decimal. 7.4

12. [Place Value]

What is the value of the digit 3 in the number 18.305? $\frac{3}{10}$ or 0.3

13. [Operations]

$24 - 16 \div 8 =$ 22

14. [Exploring Numbers]

Complete the next two multiples of 2.

2, 4, 6, 8 , 10

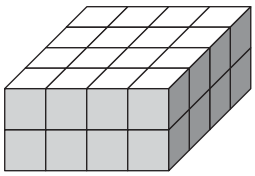
15. [Number Patterns / Equations]

5, 10, 20, 40, 80 , 160

16. [Units of Measurement]
Convert to millilitres:

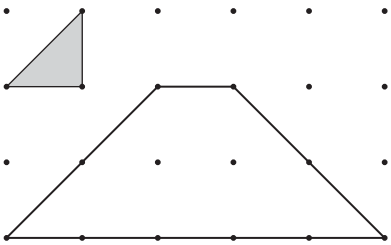
18 L = **18 000 mL**

17. [Measuring]
How many cubes were used to make the prism?



32

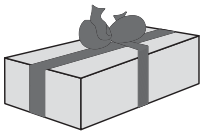
18. [Perimeter / Area]
How many shaded triangles are needed to cover the trapezium?



12

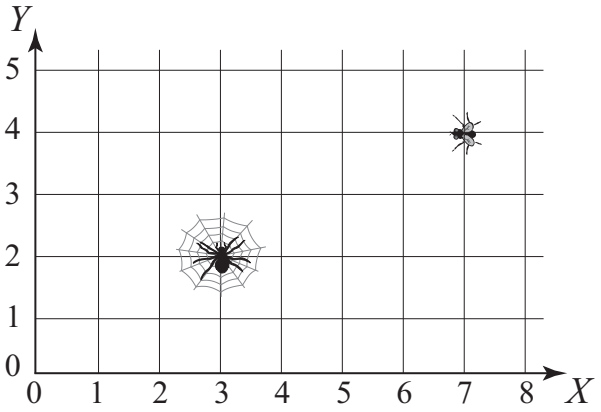
19. [Shapes]
What type of solid is shown below?

A) cube
B) square pyramid
C) rectangular prism



C

20. [Location / Transformation]
What are the coordinates of the spider and the fly?



spider = (3,2) fly = (7,4)

21. [Statistics / Probability]
Which alternative is closest in meaning to the expression "Even chance"?

A) unlikely
B) 50 - 50 chance
C) impossible

B

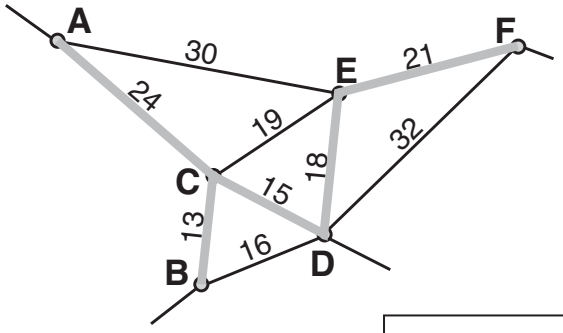
22. [Problem Solving 1]
A number of children are standing in a circle at a party. They are evenly spaced and the fourth child is directly opposite the ninth child. How many children are there altogether?

10

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

$$\begin{array}{r} \boxed{2}\ 7 \\ 2\ \boxed{4} \\ +\ 4\ 1 \\ \hline 9\ 2 \end{array}$$

24. [Problem Solving 3]
Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required.
[Each town must be connected to at least one other town. All distances are in kilometres.]



91 km

MATHS MATE

YELLOW

Test 5

Covering worksheets 3.1 - 3.4

Name: .....

1. [+ Whole Numbers to 10]

	13	8	12	7	11	16	10	14	15	9
+ 6	19	14	18	13	17	22	16	20	21	15

2. [– Whole Numbers to 10]

	13	8	26	21	10	14	9	22	15	7
– 6	7	2	20	15	4	8	3	16	9	1

3. [× Whole Numbers to 10]

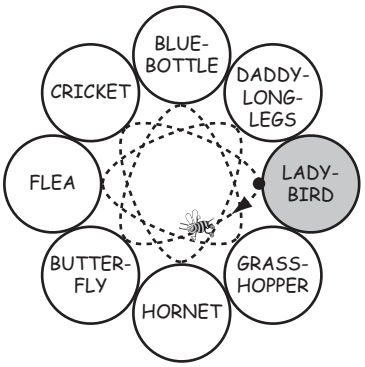
	9	8	7	4	6	1	10	2	3	5
× 9	81	72	63	36	54	9	90	18	27	45

4. [÷ Whole Numbers to 10]

	49	42	28	7	63	70	14	35	56	21
÷ 7	7	6	4	1	9	10	2	5	8	3

SPELLING BEE

Starting on Ladybird, follow the Bee's path as you spell the name of any insect, one letter per bounce. The clever Bee will end up on the insect it has spelt.



5. [Large Number +]

$$\begin{array}{r} 3573 \\ +\ 252 \\ \hline \end{array}$$

3825

6. [Large Number –]

$$\begin{array}{r} 571 \\ -\ 136 \\ \hline \end{array}$$

435

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 80 \\ \times 1000 \\ \hline \end{array}$$

80000

8. [Large Number ×,÷]

$$\begin{array}{r} 960 \\ \times\ 7 \\ \hline \end{array}$$

6720

9. [Decimals]

Which of the following are true?

A) 0.2 = 0.02
B) 0.5 = 0.500
C) 6.00 = 6.0
D) 80 = 800

B and C

10. [Fractions]

Shade to complete the sum.

$\frac{1}{5} + \frac{2}{5} =$ **$\frac{3}{5}$**

11. [Decimals / Fractions / Percentages]

Write the mixed number $3\frac{15}{100}$ as a decimal.

3.15

12. [Place Value]

What is the value of the digit 7 in the number 0.97?

or 0.07 **$\frac{7}{100}$**

13. [Operations]

$4 \times 3 + 6 =$ **18**

14. [Exploring Numbers]

Complete the next two multiples of 3.

3, 6, 9, **12 , 15**

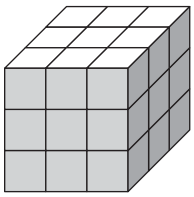
15. [Number Patterns / Equations]

3, 6, 12, 24, **48 , 96**

16. [Units of Measurement]
Convert to litres:

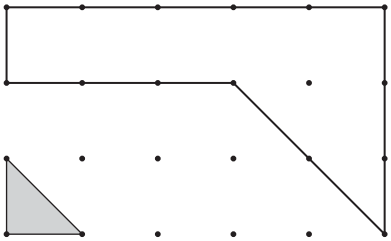
10 000 mL = **10 L**

17. [Measuring]
How many small cubes were used to make the larger cube?



27

18. [Perimeter / Area]
How many shaded triangles are needed to cover the shape?



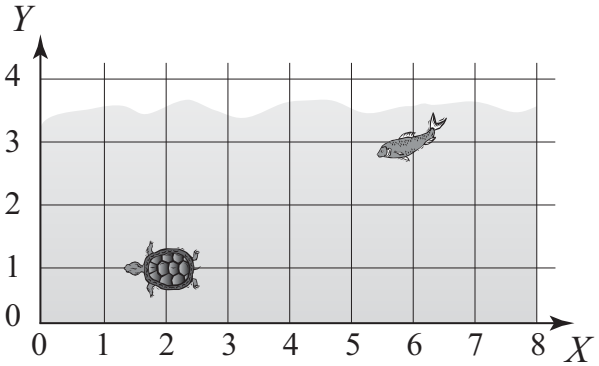
14

19. [Shapes]
What type of solid is shown below?

A) pentagonal prism
B) sphere
C) cylinder

B

20. [Location / Transformation]
What are the coordinates of the turtle and the fish?



turtle = (2,1) fish = (6,3)

21. [Statistics / Probability]
Which alternative is closest in meaning to the expression "Pigs might fly"?

A) likely to occur
B) unlikely to occur
C) will not occur

C

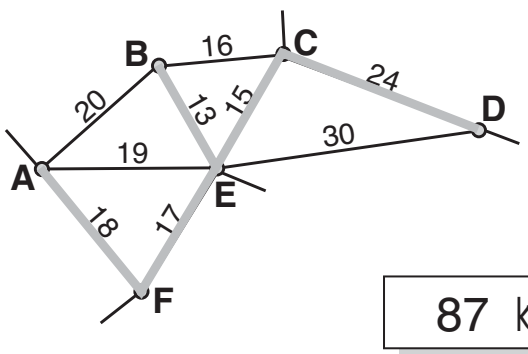
22. [Problem Solving 1]
A number of soccer players are standing in a circle. They are evenly spaced and the second player is directly opposite the seventh player. How many soccer players are there altogether?

10

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

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

24. [Problem Solving 3]
Towns A to F are to be connected by fibre optics cables along existing roads. Calculate the minimum length of cable required.
[Each town must be connected to at least one other town. All distances are in kilometres.]



87 km

MATHS MATE

YELLOW

Test 6

Covering worksheets 3.5 - 3.8

Name: .....

1. [+ Whole Numbers to 10]

	11	14	13	15	18	10	9	17	12	16
+ 8	19	22	21	23	26	18	17	25	20	24

2. [– Whole Numbers to 10]

	30	19	13	26	12	18	21	15	17	24
– 9	21	10	4	17	3	9	12	6	8	15

3. [× Whole Numbers to 10]

	5	7	1	6	2	3	10	9	4	8
× 7	35	49	7	42	14	21	70	63	28	56

4. [÷ Whole Numbers to 10]

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

WORD CODE

Each letter in the code below represents a different digit. When a letter appears more than once, it always represents the same digit.
Try to find the code.

```
  FISH
+CHIPS
-------
 YUMMY
```

1	
2	H
3	
4	I
5	
6	C
7	
8	
9	

	F	I 4	S	H 2	
+	C 6	H 2	I 4	P	S
	Y	U	M	M	Y

Answer: UHPISCYMF

5. [Large Number +]

```
 6064
  130
+2423
------
 8617
```

6. [Large Number –]

```
  300
-  73
------
  227
```

7. [Powers of 10 ×,÷]

$13\,000 \div 1000 =$ **13**

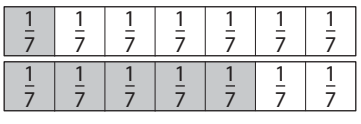
8. [Large Number ×,÷]

```
   41
6)246
```

9. [Decimals]

```
 $1.30
+$4.95
-------
 $6.25
```

10. [Fractions]

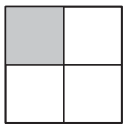


Use <, = or > to make this statement true.

$\frac{1}{7}$ **<** $\frac{5}{7}$

11. [Decimals / Fractions / Percentages]

Shade 25% or $\frac{1}{4}$ of this square.



12. [Place Value]

Place in order from smallest to largest:

4.8, 4, 8.4, 4.4, 8

4, 4.4, 4.8, 8, 8.4

13. [Operations]

$5 + 7 - 3 - 1 =$ **8**

14. [Exploring Numbers]

Which number is a prime?

6, 7, 8 or 9 **7**

15. [Number Patterns / Equations]

$50 \times$ **7** $= 350$

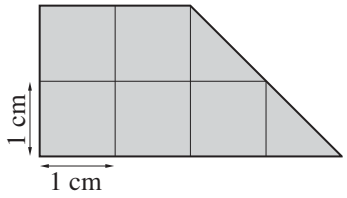
16. [Units of Measurement]
Convert to minutes:

2 h = **120 min**

17. [Measuring]
It is 08:45. What will the time be in 1 hour and 25 minutes?
[Use the 24-hour clock.]

10:10

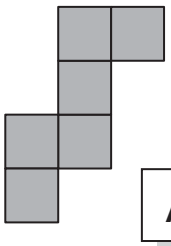
18. [Perimeter / Area]
Find the area of this trapezium.



6 cm²

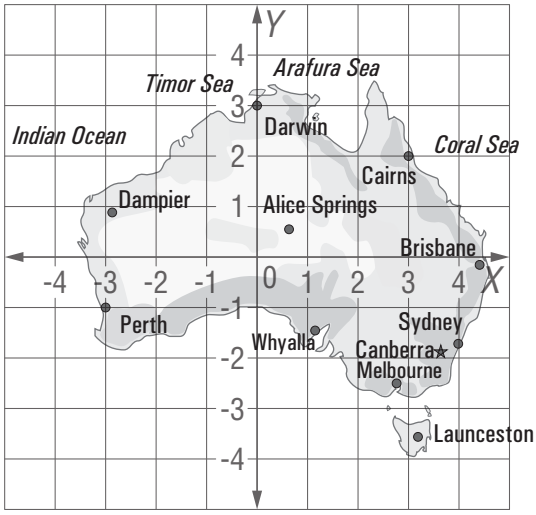
19. [Shapes]
Which shape can this net be used to make?

A) cube
B) square prism
C) rectangular prism



A

20. [Location / Transformation]
From Perth you move three units right on the grid and four units up. Which city are you in and what are the coordinates of this city?



city: Darwin (0 , 3)

21. [Statistics / Probability]
A single die is rolled. What is the probability that it will come up a number less than 5?

A) one out of six
B) two out of five
C) four out of six

C

22. [Problem Solving 1]
Complete the addition table.

+	6	4	7
4	10	8	11
9	15	13	16
3	9	7	10

23. [Problem Solving 2]
An archaeologist found some ancient numbers written as follows:

 for 4

 for 28

and  for 40.

What did equal?

60

24. [Problem Solving 3]
In the addition problem shown, the letters A, B and C stand for different digits. If A = 1 what number does ABC represent?

$$\begin{array}{r} A\ B \\ +\ B\ A \\ \hline A\ A\ C \end{array}$$

ABC = 190

MATHS MATE

YELLOW

Test 6

Covering worksheets 3.5 - 3.8

Name: .....

1. [+ Whole Numbers to 10]

	18	11	14	10	13	9	16	12	15	17
+ 9	27	20	23	19	22	18	25	21	24	26

2. [– Whole Numbers to 10]

	7	12	18	9	26	15	30	14	21	13
– 4	3	8	14	5	22	11	26	10	17	9

3. [× Whole Numbers to 10]

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

4. [÷ Whole Numbers to 10]

	28	14	63	56	35	42	21	70	49	7
÷ 7	4	2	9	8	5	6	3	10	7	1

WORD CODE

Each letter in the code below represents a different digit. When a letter appears more than once, it always represents the same digit. Try to find the code.

```
  ONE
  TWO
+ FOUR
 SEVEN
```

0	E
1	
2	
3	
4	U
5	
6	O
7	
8	
9	

Answer: ESWNUTORVF

5. [Large Number +]

```
  2042
   583
+ 1222
------
  3847
```

6. [Large Number –]

```
   600
–   82
-----
   518
```

7. [Powers of 10 ×,÷]

$24\,000 \div 1000 =$ **24**

8. [Large Number ×,÷]

```
   84
2)168
```

9. [Decimals]

```
  $2.75
+ $5.50
-------
  $8.25
```

10. [Fractions]

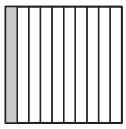
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Use <, = or > to make this statement true.

$\frac{3}{8}$ **>** $\frac{2}{8}$

11. [Decimals / Fractions / Percentages]

Shade 10% or $\frac{1}{10}$ of this square.



12. [Place Value]

Place in order from smallest to largest:

5.6, 6.6, 6.5, 5.5, 5

5, 5.5, 5.6, 6.5, 6.6

13. [Operations]

$6 + 8 - 3 - 2 =$ **9**

14. [Exploring Numbers]

Which number is a prime?

4, 5, 8 or 12 **5**

15. [Number Patterns / Equations]

40 × 10 = 400

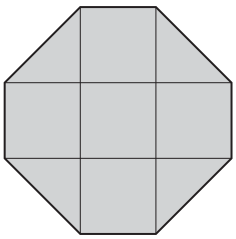
16. [Units of Measurement]
Convert to seconds:

6 min = **360 s**

17. [Measuring]
It is 15:35. What will the time be in 4 hours and 30 minutes?
[Use the 24-hour clock.]

20:05

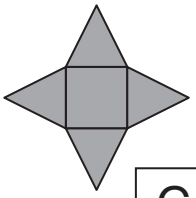
18. [Perimeter / Area]
Find the area of this octagon.



7 cm²

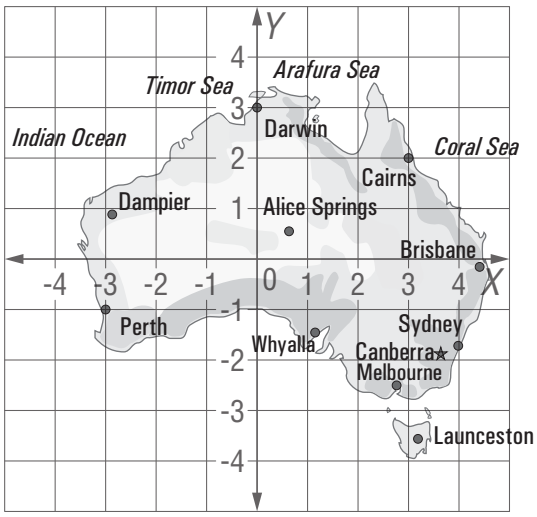
19. [Shapes]
Which shape can this net be used to make?

A) triangular pyramid
B) triangular prism
C) square pyramid



C

20. [Location / Transformation]
From Darwin you move four units down on the grid and three units left. Which city are you in and what are the coordinates of this city?



city: Perth (–3, –1)

21. [Statistics / Probability]
A single die is rolled. What is the probability that it will come up an odd number?

A) one out of six
B) three out of six
C) two out of five

B

22. [Problem Solving 1]
Complete the addition table.

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

23. [Problem Solving 2]
An archaeologist found some ancient numbers written as follows:

 for 6

 for 8

and  for 19.

What did  equal?

14

24. [Problem Solving 3]
In the addition problem shown, the letters A, B and C stand for different digits. If B = 9 what number does ABC represent?

$$\begin{array}{r} A\ A\ B \\ +\ A\ B\ C \\ \hline B\ A\ A \end{array}$$

ABC = 495

MATHS MATE

YELLOW

Test 7

Covering worksheets 4.1 - 4.4

Name: .....

1. [+ Whole Numbers to 10]

	15	20	13	29	8	21	16	22	7	14
+ 7	22	27	20	36	15	28	23	29	14	21

2. [– Whole Numbers to 10]

	15	29	17	24	10	18	13	21	26	12
– 9	6	20	8	15	1	9	4	12	17	3

3. [× Whole Numbers to 10]

	4	8	5	7	1	6	2	3	10	9
× 8	32	64	40	56	8	48	16	24	80	72

4. [÷ Whole Numbers to 10]

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

5. [Large Number +]

$$\begin{array}{r} 2155 \\ +\ 578 \\ \hline 2733 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 633 \\ -\ 374 \\ \hline 259 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 30 \\ \times\ 100 \\ \hline 3000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 164 \\ \times\ 8 \\ \hline 1312 \end{array}$$

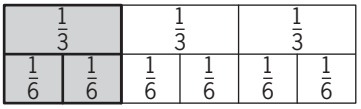
9. [Decimals]

How much change will you receive from $4.00 if you spend $2.80?

$ 1.20

10. [Fractions]

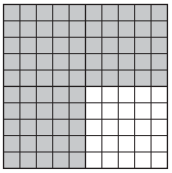
Shade the bars to complete the equivalent fractions.



$\frac{1}{3} = \frac{2}{6}$

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



75 %

12. [Place Value]

Round 8539 to the nearest hundred.

8500

13. [Operations]

$6 - (4 - 2) =$ 4

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 20:

$20 = 2 \times 2 \times$ 5

15. [Number Patterns / Equations]

$30 \div$ 6 $= 5$

16. [Units of Measurement]

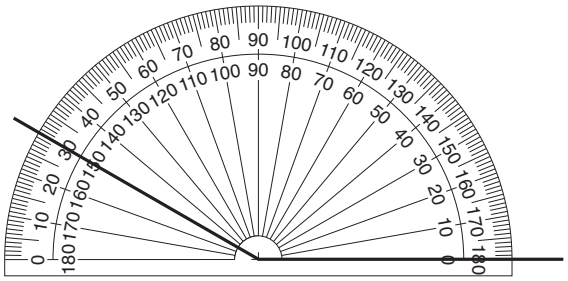
Which is greater?

600 cm or 7 m

7 m

17. [Measuring]

Using the protractor measure the size of the angle shown.

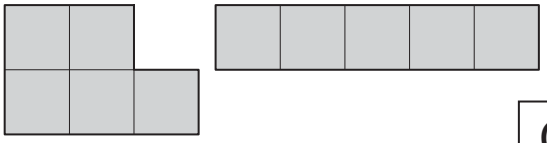


150°

18. [Perimeter / Area]

The shapes below have the same:

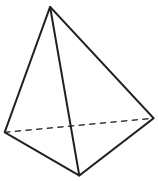
A) perimeter and area
B) perimeter
C) area



C

19. [Shapes]

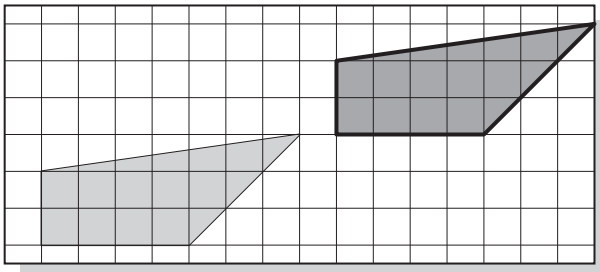
How many faces does a triangular pyramid have?



4

20. [Location / Transformation]

Redraw this shape after translating it 8 units to the right and 3 units up.



21. [Statistics / Probability]

A bag contains 4 white marbles and 7 green marbles. What is the chance that the first marble drawn will be either green or white?

A) impossible
B) unlikely
C) likely
D) certain

D

22. [Problem Solving 1]

Lewis and Jess take $50 to the Italian take-away. They order two pasta, one large salad and two bottles of lemonade. How much change do they get?

Menu		
Pizza	one size	$15.50
Pasta	one size	$11.50
Salad	small	$6.50
	large	$9.50
Lemonade	bottle	$4.50
	can	$3.00

$ 8.50

23. [Problem Solving 2]

I think of a number, double it and then subtract 6. If the result is 24, what was the original number?

15

24. [Problem Solving 3]

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret number	Cows	Bulls
1st	2 3 4	-	2
2nd	7 3 9	-	-
3rd	4 6 5	2	-

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MATHS MATE

YELLOW

Test 7

Covering worksheets 4.1 - 4.4

Name: .....

1. [+ Whole Numbers to 10]

	13	18	22	7	11	16	10	14	25	19
+ 10	23	28	32	17	21	26	20	24	35	29

2. [– Whole Numbers to 10]

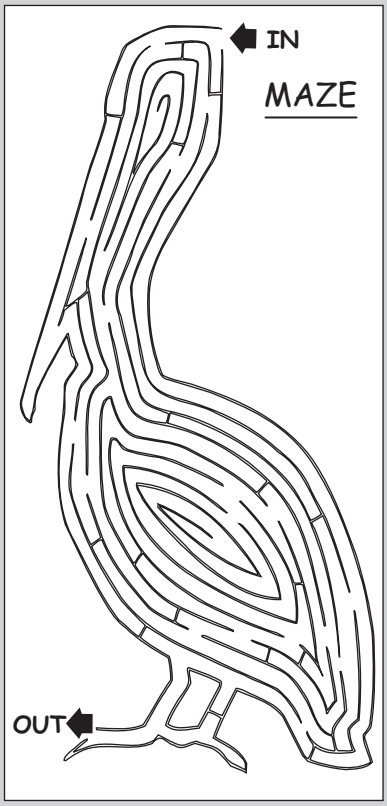
	17	26	8	12	15	23	14	9	20	11
– 4	13	22	4	8	11	19	10	5	16	7

3. [× Whole Numbers to 10]

	4	1	3	9	10	5	8	2	6	7
× 7	28	7	21	63	70	35	56	14	42	49

4. [÷ Whole Numbers to 10]

	8	72	48	24	64	32	40	80	56	16
÷ 8	1	9	6	3	8	4	5	10	7	2



5. [Large Number +]

$$\begin{array}{r} 3289 \\ +\ 377 \\ \hline 3666 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 562 \\ -\ 385 \\ \hline 177 \end{array}$$

7. [Powers of 10 ×,÷]

$$\begin{array}{r} 40 \\ \times\ 100 \\ \hline 4000 \end{array}$$

8. [Large Number ×,÷]

$$\begin{array}{r} 187 \\ \times\ 9 \\ \hline 1683 \end{array}$$

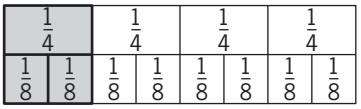
9. [Decimals]

How much change will you receive from $5.00 if you spend $2.60?

$ 2.40

10. [Fractions]

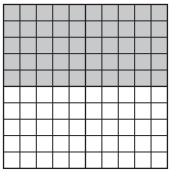
Shade the bars to complete the equivalent fractions.



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

11. [Decimals / Fractions / Percentages]

What percentage of the whole square is shaded?



50 %

12. [Place Value]

Round 763 to the nearest ten.

760

13. [Operations]

$8 - (3 - 2) =$ 7

14. [Exploring Numbers]

Complete the missing factor in this factorisation of 36:

$36 = 2 \times 3 \times 6$

15. [Number Patterns / Equations]

$44 \div 11 = 4$

16. [Units of Measurement] *

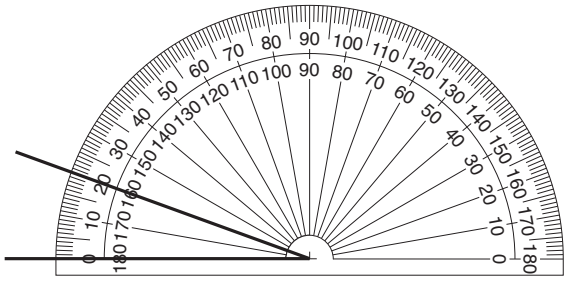
Which is greater?

4000 g or 5 kg

5 kg

17. [Measuring]

Using the protractor measure the size of the angle shown.

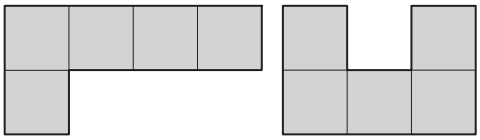


20°

18. [Perimeter / Area]

The shapes below have the same:

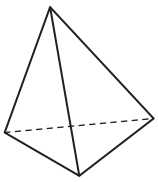
A) perimeter and area
B) perimeter
C) area



A

19. [Shapes]

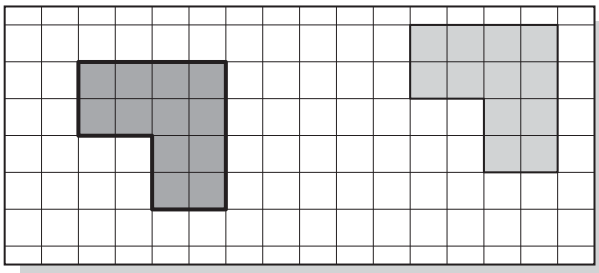
How many edges does a triangular pyramid have?



6

20. [Location / Transformation]

Redraw this shape after translating it 9 units to the left and 1 unit down.



21. [Statistics / Probability]

A bag contains 10 white marbles and 6 green marbles. What is the chance that the first marble drawn will be white?

A) impossible
B) unlikely
C) likely
D) certain

C

22. [Problem Solving 1]

Lin and Naomi take $40 to the Italian take-away. They order one pizza, one pasta and two cans of lemonade. How much change do they get?

Menu		
Pizza	one size	$15.50
Pasta	one size	$11.50
Salad	small	$6.50
	large	$9.50
Lemonade	bottle	$4.50
	can	$3.00

$ 7.00

23. [Problem Solving 2]

I think of a number, subtract 10 and then multiply by 2. If the result is 24, what was the original number?

22

24. [Problem Solving 3]

Deduce the 3-digit secret number.

[A 'cow' means a number is correct in value but is in the wrong position.
A 'bull' shows that a number is both correct in value and is in the right position.
i.e. 2 cows and 1 bull would indicate that all three numbers were correct but two were in the wrong positions.]

Guess	Secret number	Cows	Bulls
1st	3 5 7	-	1
2nd	5 7 2	-	1
3rd	4 6 9	1	-
4th	2 3 4	3	-

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MATHS MATE

YELLOW

Test 8

Covering worksheets 4.5 - 4.8

Name: .....

1. [+ Whole Numbers to 10]

	11	12	23	15	8	20	9	14	17	26
+ 5	16	17	28	20	13	25	14	19	22	31

2. [– Whole Numbers to 10]

	11	17	26	13	14	28	15	20	29	22
– 6	5	11	20	7	8	22	9	14	23	16

3. [× Whole Numbers to 10]

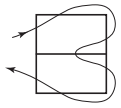
	10	6	4	5	2	1	7	3	8	9
× 8	80	48	32	40	16	8	56	24	64	72

4. [÷ Whole Numbers to 10]

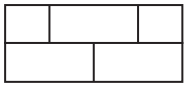
	100	40	70	80	50	90	60	20	10	30
÷ 10	10	4	7	8	5	9	6	2	1	3

FIND A PATH

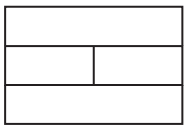
Try to draw a single path which cuts through each of the line segments in the sketches below only once.

e.g. 

Which sketch below has no such path?

a) 

b) 

c) 

Answer: a)

5. [Large Number +]

$$\begin{array}{r} 2013 \\ 246 \\ +1147 \\ \hline 3406 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 9506 \\ -\ 129 \\ \hline 9377 \end{array}$$

7. [Powers of 10 ×,÷]

$600 \div 10 =$ **60**

8. [Large Number ×,÷]

$$\begin{array}{r} 15 \\ \times 84 \\ \hline 60 \\ 1200 \\ \hline 1260 \end{array}$$

9. [Decimals]

$$\begin{array}{r} 5.24 \\ -\ 1.72 \\ \hline 3.52 \end{array}$$

10. [Fractions]

$\frac{6}{8} - \frac{3}{8} =$ $\frac{3}{8}$

11. [Decimals / Fractions / Percentages]

Write 0.25 as a percentage.

25 %

12. [Place Value]

Estimate the product of 28 and 33 by rounding to the nearest ten before multiplying. **900**

13. [Operations]

$18 \div (3 + 6) =$ **2**

14. [Exploring Numbers]

Which of the numbers 2, 3, 5, 7 and 10 are factors of 3000?

2, 3, 5, 10

15. [Number Patterns / Equations]

2, 3, 5, 8, 12, **17 , 23**

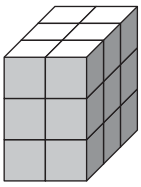
16. [Units of Measurement]

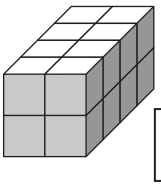
Circle the longest time.

1 h **6000 s** 80 min

17. [Measuring]

Which prism has the lesser volume?

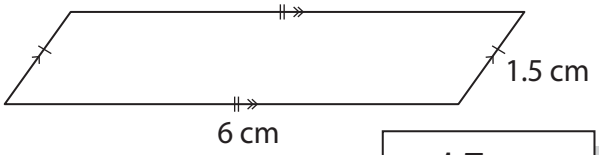
A) 

B) 

B

18. [Perimeter / Area]

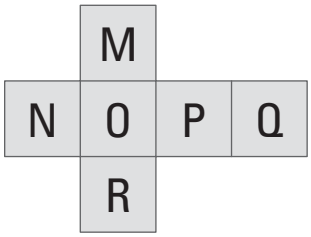
Find the perimeter of the parallelogram.



15 cm

19. [Shapes]

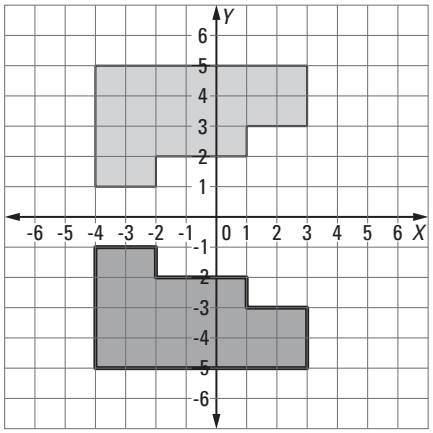
This net forms a cube when folded.
Which letter is on the face opposite to letter R?



M

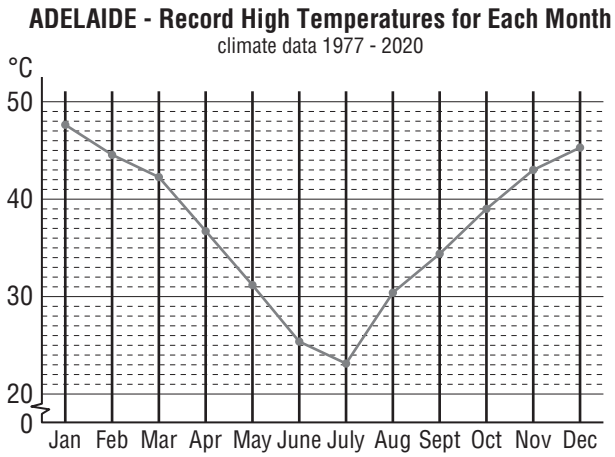
20. [Location / Transformation]

Redraw this shape after reflecting it in the *X*-axis.



21. [Statistics / Probability]

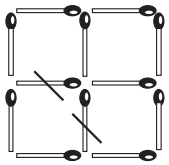
How many monthly records in Adelaide's high temperatures are above 40°C?

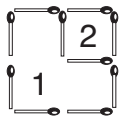


5

22. [Problem Solving 1]

Remove 2 matches to leave 2 squares.





Or any similar pairs

23. [Problem Solving 2]

Which bag of almonds is the best value?

A) 300 g for $15.00

B) 200 g for $11.00

A

24. [Problem Solving 3]

Fill in the big square so that each row and each column contain the numbers from 1, 2 and 3. The digits within each thicker outlined area, when combined using the given operation, must equal the given number.

3× 3	1	5+ 2
3+ 1	2	3
6× 2	3	1

MATHS MATE

YELLOW

Test 8

Covering worksheets 4.5 - 4.8

Name: .....

1. [+ Whole Numbers to 10]

	8	15	26	10	13	19	22	24	11	7
+ 7	15	22	33	17	20	26	29	31	18	14

2. [– Whole Numbers to 10]

	24	12	10	15	19	17	28	13	11	16
– 8	16	4	2	7	11	9	20	5	3	8

3. [× Whole Numbers to 10]

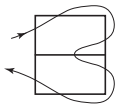
	7	2	8	9	6	10	4	1	3	5
× 3	21	6	24	27	18	30	12	3	9	15

4. [÷ Whole Numbers to 10]

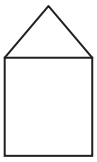
	45	18	9	90	27	63	54	36	81	72
÷ 9	5	2	1	10	3	7	6	4	9	8

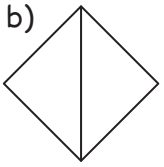
FIND A PATH

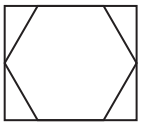
Try to draw a single path which cuts through each of the line segments in the sketches below only once.

e.g. 

Which sketch below has no such path?

a) 

b) 

c) 

Answer: c)

5. [Large Number +]

$$\begin{array}{r} 3064 \\ 3244 \\ +\,1253 \\ \hline 7561 \end{array}$$

6. [Large Number –]

$$\begin{array}{r} 1703 \\ -\;\;238 \\ \hline 1465 \end{array}$$

7. [Powers of 10 ×,÷]

$900 \div 10 =$ **90**

8. [Large Number ×,÷]

$$\begin{array}{r} 63 \\ \times\,24 \\ \hline 252 \\ 1260 \\ \hline 1512 \end{array}$$

9. [Decimals]

$$\begin{array}{r} 8.75 \\ -\,5.69 \\ \hline 3.06 \end{array}$$

10. [Fractions]

$\frac{9}{10} - \frac{7}{10} =$ or $\frac{1}{5}$ **$\frac{2}{10}$**

11. [Decimals / Fractions / Percentages]

Write 75% in decimal form. **0.75**

12. [Place Value]

Estimate the product of 19 and 18 by rounding to the nearest ten before multiplying. **400**

13. [Operations]

$21 \div (3 + 4) =$ **3**

14. [Exploring Numbers]

Which of the numbers 2, 3, 4, 5 and 11 are factors of 2013?

3, 11

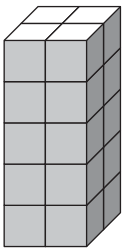
15. [Number Patterns / Equations]

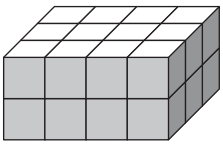
3, 4, 6, 9, 13, **18 , 24**

16. [Units of Measurement]
Circle the shortest time.

1 month 40 days 7 weeks

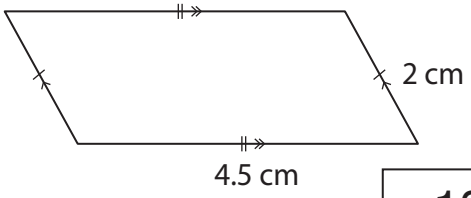
17. [Measuring]
Which prism has the lesser volume?

A) 

B) 

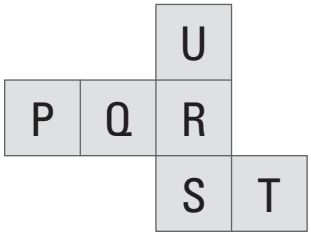
A

18. [Perimeter / Area]
Find the perimeter of the parallelogram.



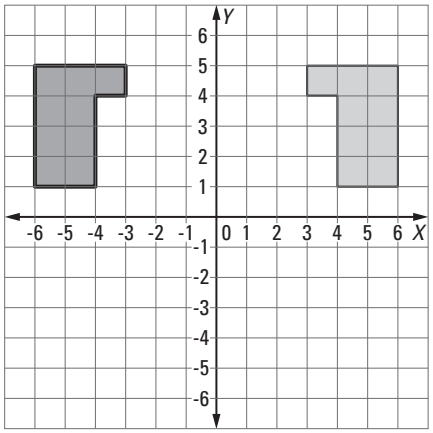
13 cm

19. [Shapes]
This net forms a cube when folded.
Which letter is on the face opposite to letter Q?

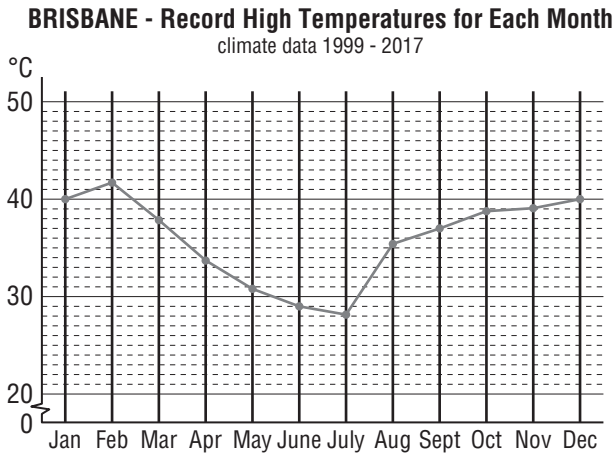


T

20. [Location / Transformation]
Redraw this shape after reflecting it in the *Y*-axis.

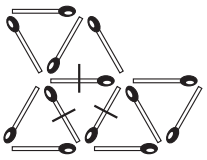


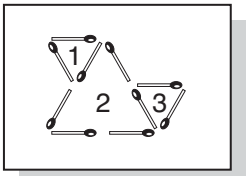
21. [Statistics / Probability]
How many monthly records in Brisbane's high temperatures are 40°C or above?



3

22. [Problem Solving 1]
Remove 3 matches to leave 3 triangles.





23. [Problem Solving 2]
Which jam jar is the best value?

A) 500 g for $9.00

B) 300 g for $6.00

A

24. [Problem Solving 3]
Fill in the big square so that each row and each column contain the numbers from 1, 2 and 3. The digits within each thicker outlined area, when combined using the given operation, must equal the given number.

3× 3	5+ 1	2
1	2	3× 3
5+ 2	3	1

MATHS MATE

Teacher Resource

MATHS MATE

Name: .....

Class: .....

Teacher: .....

Worksheet Results

Term 1

		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. [Dec. / Frac. / Percentages]	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	16.1,2	16	16	16	16	16.3,4,5
	17. [Measuring]	17	17	17	17	17.1	17	17	17	17	17.2
	18. [Perimeter / Area]	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	21.3,4
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

Worksheet Results

Term 2

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	5.2,3	5	5	5	5	5.2,3
	6. [Large Number –]	6	6	6	6	6.2,3	6	6	6	6	6.2
	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	8.2	8	8	8	8	8.4
	9. [Decimals]	9	9	9	9	9.3	9	9	9	9	9.4
	10. [Fractions]	10	10	10	10	10.3,4	10	10	10	10	10.5
	11. [Dec. / Frac. / Percentages]	11	11	11	11	11.5	11	11	11	11	11.4
	12. [Place Value]	12	12	12	12	12.3,4	12	12	12	12	12.5
	13. [Operations]	13	13	13	13	13.3,4	13	13	13	13	13.5
	14. [Exploring Numbers]	14	14	14	14	14.1,4	14	14	14	14	14.5
	15. [Number Patterns / Equations]	15	15	15	15	15.3	15	15	15	15	15.4
MEASUREMENT & SPACE	16. [Units of Measurement]	16	16	16	16	16.3	16	16	16	16	16.4
	17. [Measuring]	17	17	17	17	17.3	17	17	17	17	17.4
	18. [Perimeter / Area]	18	18	18	18	18.3	18	18	18	18	18.3
	19. [Shapes]	19	19	19	19	19.3	19	19	19	19	19.4
	20. [Location / Transformation]	20	20	20	20	20.3,4	20	20	20	20	20.4,5
S & P	21. [Statistics / Probability]	21	21	21	21	21.5,6	21	21	21	21	21.7,8
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

Name: .....

Class: .....

Teacher: .....

Worksheet Results

Term 3

		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	5.2,3	5	5	5	5	5.2,3
	6. [Large Number –]	6	6	6	6	6.2	6	6	6	6	6.2,3
	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	8.2	8	8	8	8	8.5
	9. [Decimals]	9	9	9	9	9.5	9	9	9	9	9.6,8
	10. [Fractions]	10	10	10	10	10.7	10	10	10	10	10.8,9
	11. [Dec. / Frac. / Percentages]	11	11	11	11	11.6	11	11	11	11	11.7
	12. [Place Value]	12	12	12	12	12.1,2	12	12	12	12	12.6,7
	13. [Operations]	13	13	13	13	13.7	13	13	13	13	13.5
	14. [Exploring Numbers]	14	14	14	14	14.6,7	14	14	14	14	14.8
	15. [Number Patterns / Equations]	15	15	15	15	15.5,6	15	15	15	15	15.7
MEASUREMENT & SPACE	16. [Units of Measurement]	16	16	16	16	16.5	16	16	16	16	16.6
	17. [Measuring]	17	17	17	17	17.5	17	17	17	17	17.6
	18. [Perimeter / Area]	18	18	18	18	18.4	18	18	18	18	18.4
	19. [Shapes]	19	19	19	19	19.5	19	19	19	19	19.6
	20. [Location / Transformation]	20	20	20	20	20.6	20	20	20	20	20.7,8
S & P	21. [Statistics / Probability]	21	21	21	21	21.9	21	21	21	21	21.10
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

Worksheet Results

Term 4

Name: .....

Class: .....

Teacher: .....

		Sheet 1	Sheet 2	Sheet 3	Sheet 4	Skill Builder links
NUMBER & ALGEBRA	1. [+ Whole Numbers to 10]	1	1	1	1	1.1,2,3,4
	2. [– Whole Numbers to 10]	2	2	2	2	2.1,2,3,4,5
	3. [× Whole Numbers to 10]	3	3	3	3	3.3,4,5
	4. [÷ Whole Numbers to 10]	4	4	4	4	4.1,2
	5. [Large Number +]	5	5	5	5	5.2,3
	6. [Large Number –]	6	6	6	6	6.2
	7. [Powers of 10 ×,÷]	7	7	7	7	7.1,2
	8. [Large Number ×,÷]	8	8	8	8	8.2
	9. [Decimals]	9	9	9	9	9.7
	10. [Fractions]	10	10	10	10	10.10
	11. [Dec. / Frac. / Percentages]	11	11	11	11	11.8
	12. [Place Value]	12	12	12	12	12.8,9
	13. [Operations]	13	13	13	13	13.8
	14. [Exploring Numbers]	14	14	14	14	14.9
	15. [Number Patterns / Equations]	15	15	15	15	15.8
MEASUREMENT & SPACE	16. [Units of Measurement]	16	16	16	16	16.3,4,5
	17. [Measuring]	17	17	17	17	17.7,8
	18. [Perimeter / Area]	18	18	18	18	18.3
	19. [Shapes]	19	19	19	19	19.7
	20. [Location / Transformation]	20	20	20	20	20.5
S & P	21. [Statistics / Probability]	21	21	21	21	21.11
PROBLEM SOLVING	22. [Problem Solving 1]	22	22	22	22	Hints & Solutions
	23. [Problem Solving 2]	23	23	23	23	Hints & Solutions
	24. [Problem Solving 3]	24	24	24	24	Hints & Solutions
	Total Correct					

	Sheet 5	Sheet 6	Sheet 7	Sheet 8	Skill Builder links
1. [+ Whole Numbers to 10]	1	1	1	1	1.1,2,3,4
2. [– Whole Numbers to 10]	2	2	2	2	2.1,2,3,4,5
3. [× Whole Numbers to 10]	3	3	3	3	3.1,2,3,4
4. [÷ Whole Numbers to 10]	4	4	4	4	4.1,2
5. [Large Number +]	5	5	5	5	5.2,3
6. [Large Number –]	6	6	6	6	6.2
7. [Powers of 10 ×,÷]	7	7	7	7	7.3,4
8. [Large Number ×,÷]	8	8	8	8	8.3
9. [Decimals]	9	9	9	9	9.8,9
10. [Fractions]	10	10	10	10	10.12,13
11. [Dec. / Frac. / Percentages]	11	11	11	11	11.9,10
12. [Place Value]	12	12	12	12	12.10
13. [Operations]	13	13	13	13	13.8
14. [Exploring Numbers]	14	14	14	14	14.7
15. [Number Patterns / Equations]	15	15	15	15	15.9
16. [Units of Measurement]	16	16	16	16	16.7
17. [Measuring]	17	17	17	17	17.9
18. [Perimeter / Area]	18	18	18	18	18.2,5
19. [Shapes]	19	19	19	19	19.8
20. [Location / Transformation]	20	20	20	20	20.9
21. [Statistics / Probability]	21	21	21	21	21.12
22. [Problem Solving 1]	22	22	22	22	Hints & Solutions
23. [Problem Solving 2]	23	23	23	23	Hints & Solutions
24. [Problem Solving 3]	24	24	24	24	Hints & Solutions

MATHS MATE

Name: .....

Class: .....

Teacher: .....

Test Results

		Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7	Test 8
NUMBER & ALGEBRA	1. [+ Whole Numbers to 10]	1	1	1	1	1	1	1	1
	2. [– Whole Numbers to 10]	2	2	2	2	2	2	2	2
	3. [× Whole Numbers to 10]	3	3	3	3	3	3	3	3
	4. [÷ Whole Numbers to 10]	4	4	4	4	4	4	4	4
	5. [Large Number +]	5	5	5	5	5	5	5	5
	6. [Large Number –]	6	6	6	6	6	6	6	6
	7. [Powers of 10 ×,÷]	7	7	7	7	7	7	7	7
	8. [Large Number ×,÷]	8	8	8	8	8	8	8	8
	9. [Decimals]	9	9	9	9	9	9	9	9
	10. [Fractions]	10	10	10	10	10	10	10	10
	11. [Dec. / Frac. / Percentages]	11	11	11	11	11	11	11	11
	12. [Place Value]	12	12	12	12	12	12	12	12
	13. [Operations]	13	13	13	13	13	13	13	13
	14. [Exploring Numbers]	14	14	14	14	14	14	14	14
	15. [Number Patterns / Equations]	15	15	15	15	15	15	15	15
MEASUREMENT & SPACE	16. [Units of Measurement]	16	16	16	16	16	16	16	16
	17. [Measuring]	17	17	17	17	17	17	17	17
	18. [Perimeter / Area]	18	18	18	18	18	18	18	18
	19. [Shapes]	19	19	19	19	19	19	19	19
	20. [Location / Transformation]	20	20	20	20	20	20	20	20
S & P	21. [Statistics / Probability]	21	21	21	21	21	21	21	21
PROBLEM SOLVING	22. [Problem Solving 1]	22	22	22	22	22	22	22	22
	23. [Problem Solving 2]	23	23	23	23	23	23	23	23
	24. [Problem Solving 3]	24	24	24	24	24	24	24	24
	Total Correct								

MATHS MATE

Worksheet Record

Term 1

Class: ..... **Teacher**: .....

	Worksheet Number	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
1									
2									
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✓ - Signed by parent *L* - Work handed in late ✗ - Not signed by parent

MATHS MATE

Worksheet Record

Term 2

Class: ..... **Teacher**: .....

	Worksheet Number	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8
1									
2									
3									
4									
5									
6									
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✓ - Signed by parent *L* - Work handed in late × - Not signed by parent

MATHS MATE

Worksheet Record

Term 3

Class: ..... **Teacher**: .....

	Worksheet Number	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
1									
2									
3									
4									
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✓ - Signed by parent *L* - Work handed in late x - Not signed by parent

MATHS MATE

Worksheet Record

Term 4

Class: ..... **Teacher**: .....

	Worksheet Number	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8
1									
2									
3									
4									
5									
6									
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✓ - Signed by parent *L* - Work handed in late × - Not signed by parent