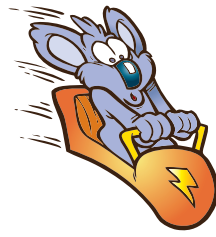


Australian



Signpost

MATHS

Sample pages



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Short Contents

What is Australian Signpost Maths?	iii
Contents and Syllabus Overview	vi
Suggested Program	x
Contents Cross-reference	x
Dictionary	xvi
Sections	
1 Number and Algebra A	1
2 Number and Algebra B	37
3 Measurement and Geometry A	87
4 Measurement and Geometry B	120
5 Statistics and Probability	147
Answers	160
Diagnostic Tests	178



Pearson Australia

(a division of Pearson Australia Group Pty Ltd)
707 Collins Street, Melbourne, Victoria 3008
PO Box 23360, Melbourne, Victoria 8012
www.pearson.com.au

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First published 2018 by Pearson Australia
2021 2020 2019 2018
10 9 8 7 6 5 4 3 2 1

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Cover art: Michael Barter
Cover background: rf_vector/shutterstock.com
Illustrators: Michael Barter, Wendy Gorton, Nives Porcellato, Andrew Craig
Printed in Malaysia

ISBN 978 1 4886 2184 0
Pearson Australia Group Pty Ltd ABN 40 004 245 943

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Some of the images used in *Australian Signpost Maths 3* might have associations with deceased Indigenous Australians. Please be aware that these images might cause sadness or distress in Aboriginal or Torres Strait Islander communities.

What is Australian Signpost Maths?

Australian Signpost Maths is a mathematics activity book series for students from Foundation to Year 6. The series has been written to meet the requirements of the Australian Curriculum.

The components of the series include Student Books, Teacher's Books, Mentals Books and an interactive

Website. Teachers can select an appropriate program for every student from the rich and varied material provided.

The content has been carefully sequenced within each year level and across the series to take into account students' likely mathematical development.



Student Books



Teacher's Books



Mentals Books



Website

Structure of Australian Signpost Maths

Australian Signpost Maths emphasises the curriculum's syllabus content as well as problem-solving strategies, language development and the use of technology.

The syllabus is organised into three content strands and four proficiency strands:

Content Strands

- Number and Algebra
- Measurement and Geometry
- Statistics and Probability

Proficiency Strands (see page iv)

- Understanding
- Fluency
- Problem Solving
- Reasoning

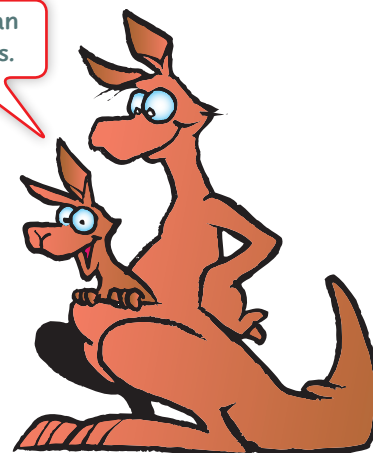
The curriculum's **general capabilities** are developed throughout the Australian Signpost Maths program. These are:

- literacy
- numeracy
- information and communication technologies (ICT)
- critical and creative thinking.

Australian Signpost Maths also provides opportunities to develop other general capabilities, such as personal and social competence and intercultural understanding.

The cross-curriculum dimensions of the syllabus – 'Aboriginal and Torres Strait Islander histories and cultures', 'Asia and Australia's engagement with Asia' and 'Sustainability' – are embedded in the program.

This is Australian Signpost Maths.



To maximise the benefits of the program, the Student Book, Teacher's Book, Mentals Book and Website should be used together.

The structure of the **Student Book** allows teachers to determine both the order and the extent of content covered. Strands are organised separately so that the teacher, not the Student Book, decides the content of the next lesson. However, a suggested term program (see page x of this book) and a detailed program (see the Teacher's Book and Website) are also provided.

The **Teacher's Book** also provides lesson plans for each page of the Student Book and blackline masters to assist teachers in implementing the program.

The **Mentals Book** mixes examples from all strands. It revises the content covered in the Student Book. Each content strand is thoroughly covered, with the proficiency strands incorporated within each section. A special feature woven throughout the Mentals Book is the tables program in the four operations.

The innovative **Website** help teachers to bring mathematics alive with technology. The website provides interactive maths tools, games and practice opportunities as well as relevant resource masters and worksheets for all year levels. These can be used for whole-class, small-group and individual learning. The website also includes **Concept Check-In** a new diagnostic screener.

Student Book pages are colour-coded by section.

Number and Algebra A

Measurement and Geometry A

Statistics and Probability

Number and Algebra B

Measurement and Geometry B

Answers

Australian Curriculum Proficiency Strands

The proficiency strands of the Australian Curriculum describe how content is explored or developed – that is, the 'thinking and doing' of mathematics.

Understanding

Learning the concepts

*Students build a robust knowledge of adaptable and transferable mathematical concepts. They make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the 'why' and the 'how' of mathematics.**

Conceptual understanding of maths ideas includes the explanation of a concept using text and diagrams. This occurs throughout Australian Signpost Maths at the top of many pages and is indicated by the Concepts icon.

Fluency

Using the concepts

*Students develop skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily.**

The practice of maths skills to build fluency occurs on every page of Australian Signpost Maths.

Problem Solving

Applying concepts and strategies to develop solutions to problems

*Students develop the ability to make choices, interpret, formulate, model and investigate problem situations, and communicate solutions effectively.**

Problem solving provides opportunities for students to use strategies and skills such as investigating and questioning, to collaborate with others and to communicate their findings to different audiences. Such activities are often indicated throughout Australian Signpost Maths by the Activity and Investigation icons.

Reasoning

Coherent and logical thought

*Students develop an increasingly sophisticated capacity for logical thought and actions, such as analysing, proving, evaluating, explaining, inferring, justifying and generalising.**

Students require opportunities to explain their mathematical thinking and can do so through both diagrams and written explanations. Reasoning questions are located throughout Australian Signpost Maths.

* The Australian Curriculum: Mathematics, v8.3 – Content structure

Special Features of Australian Signpost Maths

- **Traffic Light** system allows students to reflect on their work and highlight any units that they are having trouble understanding. They tick the red for units they feel they still don't understand, and green for those they feel they understand fully.
- Exercises are **well graded**. New work is reinforced in the Mentals Book.
- **Answers** are supplied in the back of this book as well as in the Teacher's Book.
- **Concept Check-In** diagnostic screener (on the Website) provides a snapshot of the class' conceptual understandings to aid in classroom management. It also allows teachers to measure progress over time.
- The eight **Diagnostic Tests** (now also in the back of this book) allow the teacher to discover each student's strengths and weaknesses, and the cross-references direct students to the pages where that work is introduced. Answers are supplied in the Teacher's Book.



- The **Dictionary** at the beginning of this Student Book will help students to learn the language of mathematics.
- **ID Cards** (in the Mentals Book, Teacher's Book and Website) review the language of mathematics by asking students to identify common terms, shapes and symbols.
- Important **rules and concepts** are clearly highlighted.
- **Worked examples** and explanations are given throughout the Student Book where new ideas are introduced.
- The use of **colour** makes emphasis clear and is highly motivating.
- **Cartoons** give instruction and friendly advice.
- **Interactive activities** are provided on the website for whole-class, small-group and individual learning.

Australian Signpost Icons

Signpost icons are used throughout the book as cues to the essential nature of exercises and activities, and as a guide to ways of engaging with them. These icons often indicate alternative or more concrete approaches to dealing with concepts.



CONCEPT

This icon highlights **important rules and concepts** occurring throughout the book. It often appears with worked examples.



ACTIVITY

Activities provide **applications and enrichment**. These activities usually involve the use of concrete materials and partner or group work.



FUN SPOT

These enjoyable activities are used to **motivate and involve** students in mathematical pursuits. They usually involve games and puzzles.



INVESTIGATION

Investigations allow students to **explore and discover** maths concepts.



ICT

This icon indicates the use of computers, calculators or other **information and communications technology**.

3

Contents and Syllabus Overview

Suggested Program x
 Contents Cross-reference x
 Dictionary xiv
 Answers 160
 Diagnostic Tests 178

KEY

Number and Algebra
Measurement and Geometry
Statistics and Probability

Number and Algebra A			Sub-strand	Number and place value	Fractions and decimals	Patterns and algebra	Content	Counting and numeration	Place value	Fractions	Number patterns	Suggested progress
Page	Unit	Title										
1	1:01	Skip Counting									●	Term 1
2	1:02	Odd and Even Numbers		●				●			●	
3	1:03	Odd and Even Numbers		●				●			●	
4	1:04	Numbers to 1000		●				●				
5	1:05	Numbers to 1000		●				●	●			
6	1:06	Counting		●				●			●	
7	1:07	Counting		●				●			●	
8	1:08	Numbers to 1000		●				●	●			T1, T2*
9	1:09	Numbers to 1000		●				●	●			
10	1:10	Fractions of a Whole			●					●		Term 2
11	1:11	Fractions of a Collection			●					●		
12	1:12	Numbers to 10000		●				●	●			
13	1:13	Numbers to 10000		●				●	●			
14	1:14	Fractions			●					●		
15	1:15	Comparing Fractions			●					●		
16	1:16	Number Patterns				●					●	T3, T4*
17	1:17	Numbers to 10000		●				●	●			
18	1:18	Ordering Numbers		●				●				
19	1:19	Rounding		●				●	●			
20	1:20	Fractions			●					●		Term 3
21	1:21	Fractions in Our World			●					●		
22	1:22	Numbers to 10000		●				●	●			
23	1:23	Place Value to 10000		●				●	●			
24	1:24	Number Patterns				●					●	
25	1:25	What's the Rule?				●					●	
26	1:26	Expanded Notation		●					●			T5, T6*
27	1:27	Numbers to 10000		●				●			●	
28	1:28	Number Patterns		●				●			●	
29	1:29	Number Patterns				●					●	
30	1:30	Numbers to 10000		●				●	●			
31	1:31	Expanded Notation		●				●	●			
32	1:32	Numbers to 10000		●				●	●			Term 4
33	1:33	Place Value to 10000		●				●	●			
34	1:34	Numbers to 10000		●				●	●			T7, T8*
35	1:35	Making Number Patterns				●					●	
36	1:36	Rounding		●				●	●			

* Suggested placement for Diagnostic Tests 1 to 8 (see the Teacher's Book).

Number and Algebra B

Page	Unit	Title	Sub-strand	Number and place value	Money and financial mathematics	Patterns and algebra	Content	Addition	Subtraction	Multiplication	Division	Place value	Number patterns	Suggested progress
37	2:01	Australian Money						●						Term 1
38	2:02	Addition and Subtraction Facts						●	●				●	
39	2:03	Strategies						●	●					
40	2:04	Number Facts, $\times 2$								●				
41	2:05	Addition by Looking for 10s						●						
42	2:06	Patterns in Adding and Subtracting						●	●				●	
43	2:07	Patterns Involving Subtraction							●				●	
44	2:08	Number Facts, $\times 5$, $\times 10$								●				
45	2:09	Number Facts, $\times 1$, $\times 0$								●				
46	2:10	Mental Strategies						●						T1, T2*
47	2:11	Subtraction from 2-Digit Numbers							●					
48	2:12	Multiplication Facts								●				
49	2:13	Number Facts, $\times 3$								●				Term 2
50	2:14	Addition to 99, No Trading						●						
51	2:15	Addition to 99, No Trading						●				●		
52	2:16	Multiplication								●			●	
53	2:17	Number Facts, Multiplication								●				
54	2:18	Multiplication Facts								●				
55	2:19	Relating \times and \div								●	●			
56	2:20	Money						●						T3, T4*
57	2:21	Shopping						●						
58	2:22	Relating Addition and Subtraction						●	●					
59	2:23	Inverse Operations, $+$ and $-$						●	●					
60	2:24	Sharing and Grouping									●			
61	2:25	Modelling Division									●			
62	2:26	Change from \$2						●						
63	2:27	Money						●						Term 3
64	2:28	Addition to 99, No Trading						●				●		
65	2:29	Subtraction, No Trading							●			●		
66	2:30	Multiplication								●				
67	2:31	Linking Multiplication and Division								●	●			
68	2:32	Multiples								●			●	
69	2:33	Division Facts from Multiplication Facts								●	●			
70	2:34	Addition to 99 with Trading						●						T5, T6*
71	2:35	Addition to 99 with Trading						●						
72	2:36	Addition to 99 with Trading						●				●		
73	2:37	Addition to 99 with Trading						●				●		
74	2:38	Problem Solving						●	●	●	●			
75	2:39	Problem Solving						●	●	●	●			
76	2:40	Addition Involving Hundreds						●				●		Term 4
77	2:41	Addition Involving Hundreds						●				●		
78	2:42	Subtraction to 999							●			●		
79	2:43	Addition to 999						●				●		
80	2:44	Checking Subtraction by Addition						●	●					
81	2:45	Inverse Operations, \times and \div								●	●			
82	2:46	Counting Change						●						T7, T8*
83	2:47	Rounding to the Nearest 5c						●						
84	2:48	Problem Solving								●	●			
85	2:49	Subtraction with Trading							●			●		
86	2:50	Subtraction with Trading							●			●		

* Suggested placement for Diagnostic Tests 1 to 8 (see the Teacher's Book).

Measurement and Geometry A			Sub-strand	Using units of measurement	Content	Length	Area	Volume	Capacity	Mass	Time	Suggested progress
Page	Unit	Title										
87	3:01	Direct Comparison of Length				●						Term 1
88	3:02	Time Revision									●	
89	3:03	Analogue Time									●	
90	3:04	Analogue and Digital Time									●	
91	3:05	Analogue and Digital Time									●	
92	3:06	The Metre				●						
93	3:07	Using the Metre				●						T1, T2*
94	3:08	Centimetres				●						Term 2
95	3:09	Measuring with Centimetres				●						
96	3:10	Comparing Areas					●					
97	3:11	Area					●					
98	3:12	Estimating the Litre								●		
99	3:13	The Litre						●	●			
100	3:14	The Kilogram								●		T3, T4*
101	3:15	Using the Kilogram								●		
102	3:16	Analogue Time									●	
103	3:17	Analogue and Digital Time									●	
104	3:18	Recording Length				●						Term 3
105	3:19	Finding Length				●						
106	3:20	The Calendar									●	
107	3:21	Analogue and Digital Time									●	
108	3:22	The Millimetre				●						
109	3:23	Using Millimetres				●						T5, T6*
110	3:24	Area					●					
111	3:25	Comparing Areas					●					
112	3:26	The Gram								●		
113	3:27	Using Grams								●		
114	3:28	Using a Ruler				●						Term 4
115	3:29	Comparing Masses								●		
116	3:30	The Millilitre						●	●			T7, T8*
117	3:31	Using Litres							●			
118	3:32	The Calendar									●	
119	3:33	Standard Metric Units				●			●	●		

*Suggested placement for Diagnostic Tests 1 to 8 (see the Teacher's Book).

Measurement and Geometry B			Sub-strand	Shape	Location and transformation	Geometric reasoning	Content	2D Space	3D Space	Location	Transformations	Angles	Suggested progress
Page	Unit	Title											
120	4:01	Properties of 3D Objects											Term 1
121	4:02	Symmetry											
122	4:03	Properties of 3D Objects											
123	4:04	Symmetry in Our World											
124	4:05	Parallel and Perpendicular Lines											
125	4:06	Regular and Irregular Shapes											T1, T2*
126	4:07	Position and Giving Directions											
127	4:08	Position and Giving Directions											Term 2
128	4:09	Shapes Revision											
129	4:10	Properties of 2D Shapes											
130	4:11	Investigating Angles											T3, T4*
131	4:12	Angles											
132	4:13	The Trapezium and Parallelogram											
133	4:14	Features of 2D Shapes											
134	4:15	Right Angles											Term 3
135	4:16	Angles											
136	4:17	Describing Position											
137	4:18	Pathways Between Places											T5, T6*
138	4:19	Investigating Prisms and Cylinders											Term 4
139	4:20	Investigating Pyramids											
140	4:21	Creating Maps											
141	4:22	Mazes											
142	4:23	Investigating Spheres											
143	4:24	3D Objects											
144	4:25	Properties of 2D Shapes											T7, T8*
145	4:26	Properties of 2D Shapes											
146	4:27	The Net of a Cube											

*Suggested placement for Diagnostic Tests 1 to 8 (see the Teacher's Book).

Statistics and Probability			Sub-strand	Chance	Data representation and interpretation	Content	Chance	Data investigation	Data representation	Suggested progress
Page	Unit	Title								
147	5:01	Using Blocks in Graphs								Term 1
148	5:02	Tables and Graphs								
149	5:03	Tables and Graphs								T1, T2*
150	5:04	Chance								
151	5:05	Predicting Outcomes								Term 2
152	5:06	Picture Graphs								T3, T4*
153	5:07	Making Graphs								
154	5:08	Reading Tables and Graphs								Term 3
155	5:09	Reading for Number								
156	5:10	Reading Picture Graphs								
157	5:11	Drawing Graphs								T5, T6*
158	5:12	Ordering Events								T7, T8*
159	5:13	Repeating an Experiment								Term 4

*Suggested placement for Diagnostic Tests 1 to 8 (see the Teacher's Book).

Suggested Program

	Weeks 1–10	Weeks 11–20	Weeks 21–30	Weeks 31–end
Number and Algebra A	1:01–1:09	1:10–1:19	1:20–1:31	1:32–1:36
Number and Algebra B	2:01–2:12	2:13–2:26	2:27–2:39	2:40–2:50
Measurement and Geometry A	3:01–3:07	3:08–3:17	3:18–3:27	3:28–3:33
Measurement and Geometry B	4:01–4:07	4:08–4:14	4:15–4:18	4:19–4:27
Statistics and Probability	5:01–5:04	5:05–5:07	5:08–5:12	5:13


It is assumed that there are 10 weeks in each term.

The eight Diagnostic Tests are found in the Teacher's Book.

See the Contents and Syllabus Overview on pages vi–ix for suggested placement of each test.

Contents Cross-reference

Numbers and Algebra

1	Whole numbers	Pages	Australian Curriculum Reference 
	Three-, four- and five-digit numbers and place value	4, 5, 6, 7, 8, 9, 12, 13, 17, 18, 22, 23, 26, 27, 30, 31, 32, 33, 34	Recognise, model, represent and order numbers to at least 10 000 (ACMNA052); Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)
	Odd and even numbers	2, 3, 42	Investigate the conditions required for a number to be odd or even and identify odd and even numbers (ACMNA051); Describe, continue, and create number patterns resulting from performing addition or subtraction (ACMNA060)
	Rounding off	9, 19, 23, 36, 83	Recognise, model, represent and order numbers to at least 10 000 (ACMNA052); Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053); Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)
2	Addition	Pages	Australian Curriculum Reference
	Mental strategies	36, 39, 41, 42, 46, 50, 58, 59, 63, 70, 71, 77, 79, 83	Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053); Recognise and explain the connection between addition and subtraction (ACMNA054); Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055); Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059); Describe, continue, and create number patterns resulting from performing addition or subtraction (ACMNA060)



- 1 a Count on from 76 to 100 by 2s.
- b Count backwards from 1 000 by 100s.
- c Count on from 645 to 690 by 5s.
- d Count backwards from 500 to 400 by 10s.

Understanding number relationships helps us count better.



2 Write the missing numbers.

- a 865, , 845, , , 815, , , 785
- b 625, 620, , , 605, , , , 585
- c 412, 410, , , 404, , , , 396

3 Write the first 20 even numbers. Circle every second even number and discuss the pattern you see.

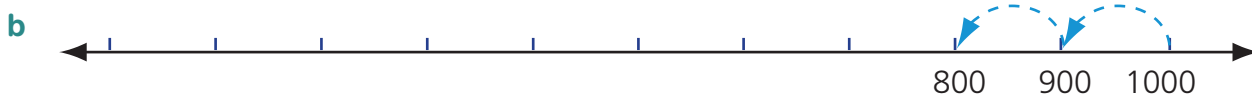
4 Count by 5s and write the first 20 numbers you count. Circle every second number and discuss the pattern.

5 If you have to count 300 ten-cent coins, what is the best counting strategy to make sure you count them correctly?

6 Show your answers to Questions 1a and 1b on the number line.



The rule is .



The rule is .

c Try to do Question 1c on your own number line.



We have split the tens from the ones.



I show	I think	I write								
	3 tens and 4 ones + 2 tens and 3 ones = 5 tens and 7 ones	<table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>4</td> </tr> <tr> <td>+ 2</td> <td>3</td> </tr> <tr> <td>5</td> <td>7</td> </tr> </tbody> </table>	Tens	Ones	3	4	+ 2	3	5	7
Tens	Ones									
3	4									
+ 2	3									
5	7									



1 Use the split strategy or place-value blocks to answer these.

a

Tens	Ones
3	2
+ 2	6

b

Tens	Ones
4	3
+ 3	5

c

Tens	Ones
3	7
+ 4	0

d

Tens	Ones
6	4
+ 2	5

e

Tens	Ones
5	6
+ 4	0

f

Tens	Ones
4	2
+ 3	5

g

Tens	Ones
5	3
+ 3	6

h

Tens	Ones
7	3
+ 2	5

i

Tens	Ones
\$6	6
+ \$2	3

j

Tens	Ones
\$7	5
+ \$2	2

k

Tens	Ones
\$4	8
+ \$3	1

l

Tens	Ones
\$5	4
+ \$3	5

2 a 4 tens and 6 ones
+ 4 tens and 2 ones

b 5 tens and 4 ones
+ 3 tens and 3 ones

c 2 tens and 4 ones
+ 5 tens and 5 ones

d 7 tens and 3 ones
+ 1 ten and 6 ones

e 6 tens and 0 ones
+ 2 tens and 9 ones

f 3 tens and 1 one
+ 4 tens and 7 ones

3 a I paid \$35 for a shirt and \$61 for pants.
How much did I spend?

b There are 11 girls and 18 boys in our class.
How many are in our class?

c 15 horses and 42 cows are on our farm.
How many animals altogether?

d I saved \$53. Alana saved \$24.
How much did we save?



Subtraction, No Trading



7 ones minus 4 ones leaves 3 ones.

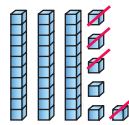
3 tens minus 2 tens leaves 1 ten.

Tens	Ones
3	7
+ 2	4
1	3

1 Model the word problem using place-value blocks. Write a number sentence.

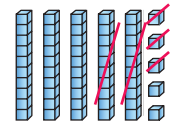
a 36 badges, 4 sold.

How many are left?



b 55 birds, 23 fly away.

How many remain?



c 47 girls, 5 boys.

How many more girls than boys?

d 68 needed, 34 collected.

How many more to collect?

e 76 books, 42 covered.

How many more to cover?

f 59 grapes, 46 eaten.

How many are left?

2 a

Tens	Ones
4	9
- 1	3

b

Tens	Ones
7	5
- 4	4

c

Tens	Ones
5	7
- 3	4

d

Tens	Ones
6	9
- 4	2

e

Tens	Ones
5	6
- 2	1

f

Tens	Ones
4	8
- 1	4

g

Tens	Ones
6	7
- 2	5

h

Tens	Ones
7	4
- 4	0

i

Tens	Ones
\$9	4
- \$3	1

j

Tens	Ones
\$6	3
- \$2	3

k

Tens	Ones
\$8	5
- \$8	1

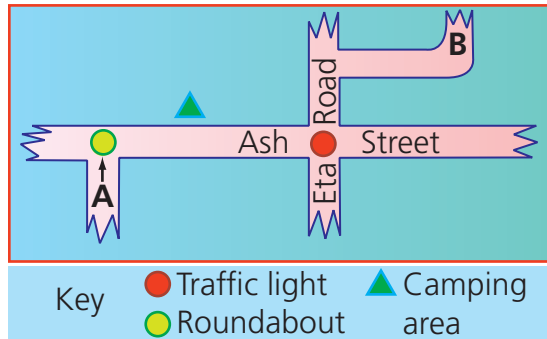
l

Tens	Ones
\$7	4
- \$2	2

● Use a calculator to check your answers in Question 2.



A map gives us a view from above.

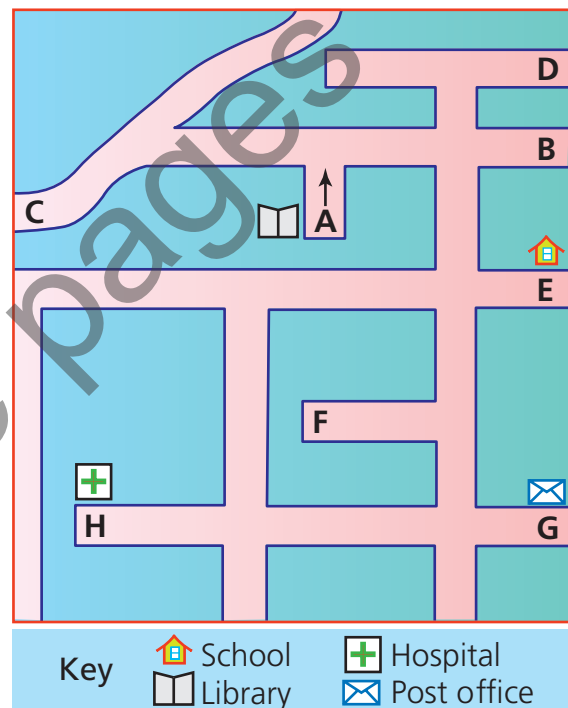


1 Write directions to get from place to place.

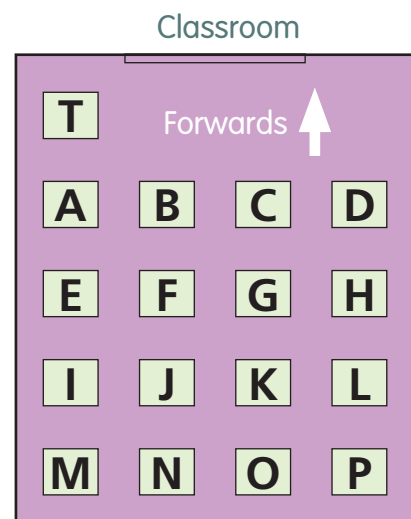
- a A to C
- b A to D
- c A to E
- d A to F

2 Follow these directions. Where do they lead?
Draw each path on the map.

- a Start at **A**. Turn right, then the first right, then the second left.
- b Start at **A**. Turn right, then the first right, then the first right, then the first left, then the first right.



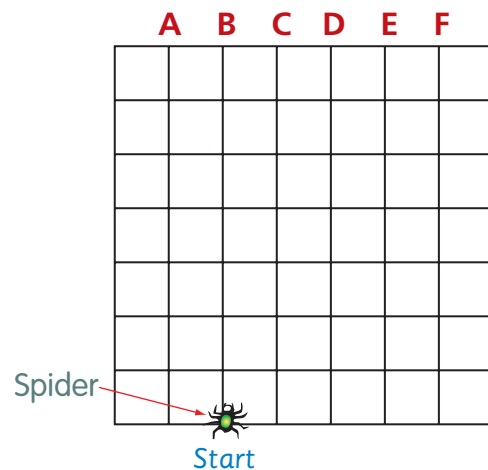
- 3
- a Jenna is sitting in seat **J**. She moves two seats to the right, then one seat forwards. Where is she now?
 - b Patrick is sitting in seat **P**. He moves three seats to the left, then two seats forwards. Where is he now?
 - c Dmitri is sitting in seat **D**. He moves three seats backwards, then two seats to the left. Where is he now?
 - d Erin is sitting in seat **E**. She moves one seat to the right, then two seats backwards, then one seat left, then two seats forwards. Where is she now?





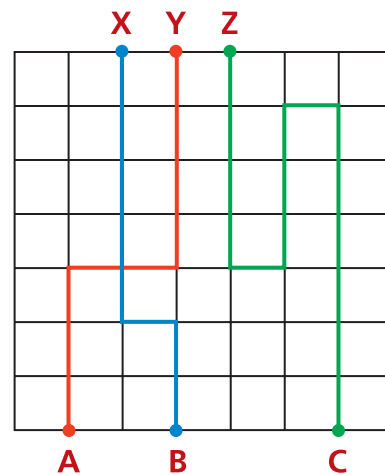
1 Follow the spider's path and write the letter for the point where it stops.

- a 4 spaces up, 2 right, 3 up
- b 3 spaces up, 1 left, 4 up
- c 2 up, 4 right, 3 up, 5 left, 2 up
- d 6 up, 2 right, 4 down, 1 left, 5 up
- e 1 right, 7 up
- f 2 up, 1 left, 2 up, 5 right, 3 up
- g Write directions to take the spider to E.



2 Use directions like those above to describe these paths.

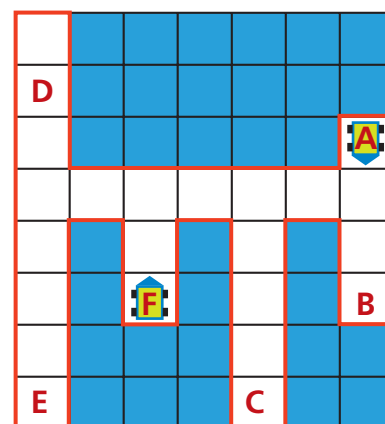
- a A to Y
- b B to X
- c C to Z
- d X to B
- e Y to A

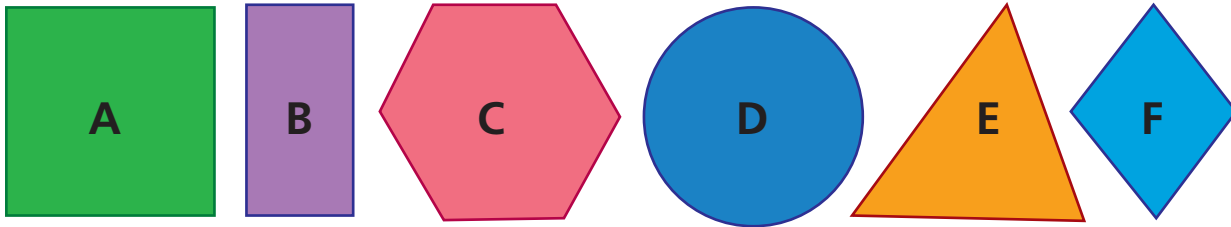


3 You are in a car at A. To get to E you would follow these directions: 1 forwards, turn right, 6 forwards, turn left, 4 forwards.

Write directions for these paths:

- a A to B
- b A to C
- c A to D
- d F to D
- e F to E





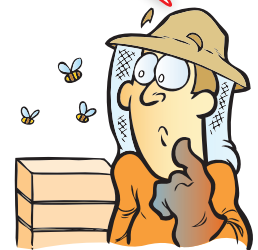
1 Write A, B, C, D, E or F to match the shape name.

- | | | | | | |
|-----------|----------------------|-----------|----------------------|-------------|----------------------|
| a circle | <input type="text"/> | b square | <input type="text"/> | c triangle | <input type="text"/> |
| d hexagon | <input type="text"/> | e rhombus | <input type="text"/> | f rectangle | <input type="text"/> |

Why is B a rectangle?

2 Write A, B, C, D, E or F to match the description.

- | | | | |
|---------------|----------------------|---------------------|----------------------|
| a three sides | <input type="text"/> | b four sides | <input type="text"/> |
| c six sides | <input type="text"/> | d no straight sides | <input type="text"/> |



3 a Which of the shapes above have all sides equal?

b Which of the shapes above have opposite sides equal?

4 Write the names of the two shapes used in each picture.

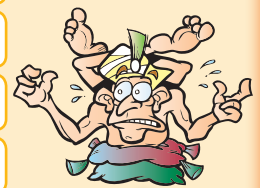
a	b	c	d
<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>

5 How many shapes are in the picture?



- | | |
|--------------|----------------------|
| a squares | <input type="text"/> |
| b triangles | <input type="text"/> |
| c rectangles | <input type="text"/> |
| d circles | <input type="text"/> |

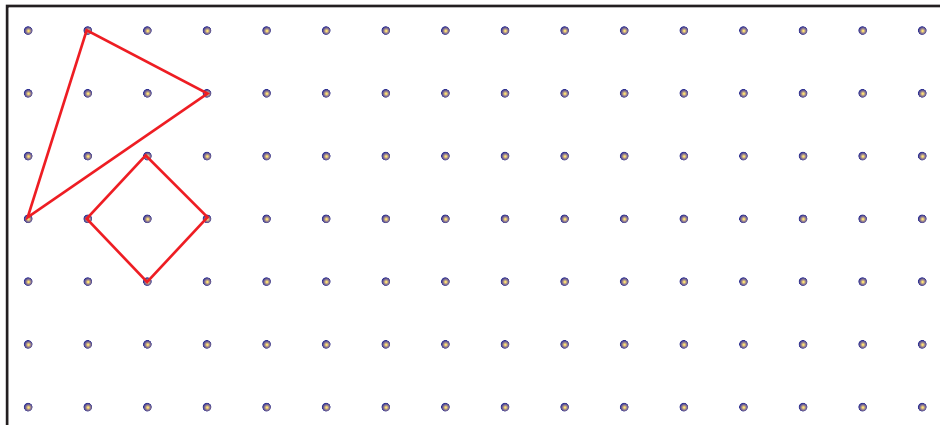
• Draw your own picture using shapes.



This is not as easy as it looks.



Antonio's teacher made a **geoboard** like this by hammering nails into wood. Antonio used the geoboard to make shapes by stretching a rubber band over the nails.



I made those.

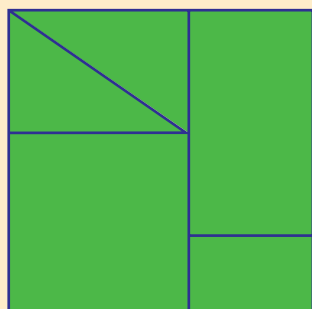


- 1 a How many nails were used to make the triangle? Number of corners =
- b How many nails were used to make the square? Number of corners =
- c How many sides on a triangle? d How many sides on a square?

2 Every corner of each shape on the geoboard must be at a nail.

- a On the geoboard above, draw 3 triangles of different shapes and sizes.
How many sides does each triangle have?
- b What shapes can you draw using 4 nails as corners?
Draw 3 of them on the geoboard above.
- c A pentagon has 5 sides. How many corners would you need to draw a pentagon?
Draw a pentagon on the geoboard.
- d Draw a shape on the geoboard that has 6 corners.
What is this shape called?

Olena cut a square of paper into 5 pieces. She asked her friend to put the square back together again. Then she asked her friend to make a picture using the pieces.



- Cut your own square of paper into 5 pieces.
- Discuss the shapes you cut out.
- Mix up your 5 pieces and ask a partner to put the square back together again.
- Use your pieces of paper to make pictures.

