| 310 | 320 |     |     | 340 | 350 |
|-----|-----|-----|-----|-----|-----|
| 360 | 370 | 380 |     |     | 400 |
| 410 |     | 430 | 440 | 450 |     |
| 460 | 470 | 480 | 490 |     |     |
| 510 | 520 | 530 | 540 | 550 |     |
|     | 570 |     |     | 590 | 600 |
| 610 |     | 630 | 640 | 650 |     |
|     |     |     |     |     |     |

**1**  **a**  Fill in the missing numbers.

  **b**  Fill in the last line.

  **c**  Write all the numbers between 450 and 460.

  _____

  _____

  **d**  Colour red the numbers 10 more than 370, 540, 620, 480.

  **e**  Colour blue the numbers 10 less than 330, 490, 610, 550.

  **f**  Write the numbers 100 more than:

  340 _____, 400 _____, 590 _____, 370 _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**2**  Write each number:

  **a**  fifty-six _____

  **b**  two hundred and nineteen _____

  **c**  five hundred and thirty _____

  **d**  ninety-five _____

  **e**  four hundred and eighty-seven _____

  **f**  seven hundred and one _____

**3**  Complete:

  **a**  961 = 900 + 60 + ☐

  **b**  784 = ☐ + ☐ + ☐

  **c**  308 = ☐ + 0 + ☐

  **d**  560 = ☐ + ☐ + ☐

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4**  What's my number?

  **a**  My number is larger than 350, but smaller than 425.
  It has double the number of hundreds in the tens place.
  Its ones number is 2 less than its tens number.      It is _____ .

  **b**  My number is less than half of a thousand.
  It is made up of odd numbers only. Its tens number
  is half way between the hundreds number and the
  ones number in size.      It is _____ .

**Self Assessment**  ☺ ☺ ☺

| ACMNA052 Number and place value • Recognise, model represent and order numbers to at least 10 000. | Score | Basic | Sound | High |
|---|---|---|---|---|
|  |  |  |  |  |

**1** Write the numbers in the boxes on the number line.
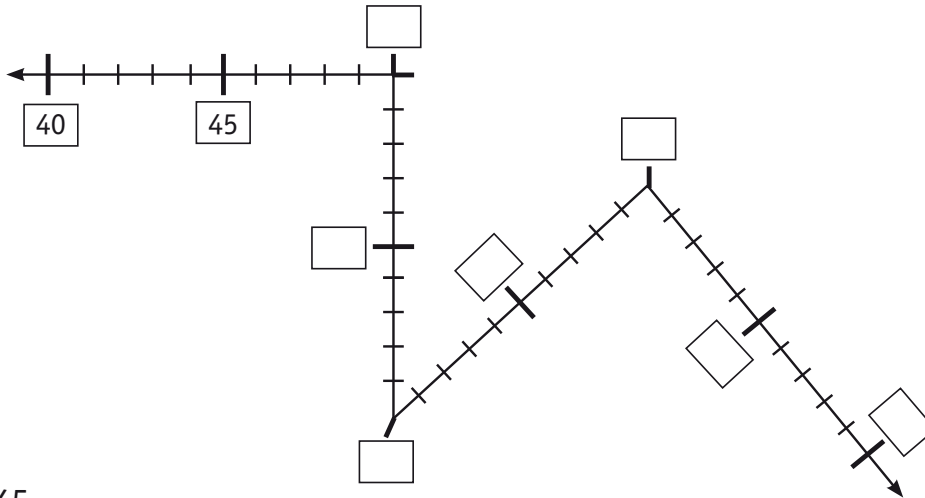


**2** Start at 45.

**a** Go forward 7 _____, then go back 3 _____, then go forward 8 _____, then go back 13 _____.

**b** The number where you landed is double _____.

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** Find the tens and then the total.

**a** 9 + 7 + 1 = _____     **b** 8 + 2 + 6 = _____     **c** 3 + 6 + 4 = _____

**4** Double.

**a** 6 _____     **b** 15 _____     **c** 18 _____     **d** 40 _____

**5** Use the number line.

**a** 43 + 19 = _____     **b** 64 + 8 = _____     **c** 52 + 27 = _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**6** Write the number sentence:

**a** I have 45 songs and download 6 more. Gran gives me 15 of hers as well.
How many do I have?     _____

**b** The temperature starts at 27° C but rises 12° by lunch and 4° after lunch.
What is the temperature after lunch?     _____

**c** There are 24 children in Yr 2, 25 in Yr 3 and 20 in Yr 4.
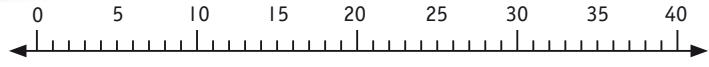How many children in the three classes?     _____

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**Name**

**1** Use the number line.

```
0    5    10   15   20   25   30   35   40
|....|....|....|....|....|....|....|....|
```

   **a** $18 - 9 =$ _____        **b** $23 - 5 =$ _____        **c** $38 - 7 =$ _____        **d** $26 - 5 =$ _____

   **e** $23 - 11 =$ _____        **f** $32 - 14 =$ _____        **g** $29 - 16 =$ _____        **h** $34 - 27 =$ _____

**2 a** 16 apples, 9 eaten. How many left?          _____

   **b** $33, $21 spent. How much left?          _____

   **c** 25 ice blocks, 15 melted. How many left?          _____

**3 a** $7 - 4 = 3$                    **b** $9 - 5 =$ __                    **c** $8 - 3 =$ __

   $70 - 40 = 30$                __ $-$ __ $=$ __                __ $-$ __ $=$ __

   $700 - 400 = 300$            ___ $-$ ___ $=$ ___            ___ $-$ ___ $=$ ___

**4 a** From 17 subtract 9 _____          **b** Take 8 away from 22 _____

   **c** 20 take away 11 _____          **d** Difference between 6 and 14 _____

   **e** 30 minus 12 _____          **f** 25c less 10c _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** Write a story and a number sentence.



_____

_____

_____ __ _____ $=$ _____
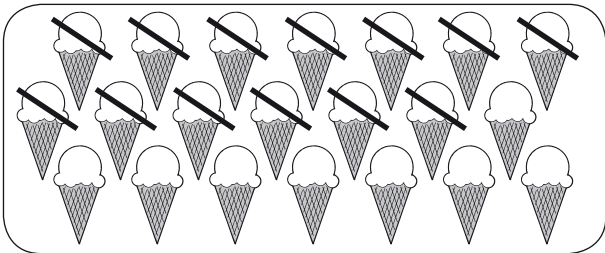
**6 a** Write 4 number facts using the numbers 3, 8, 11.

   __ $+$ __ $=$ __,        __ $+$ __ $=$ __,        __ $-$ __ $=$ __        __ $-$ __ $=$ __

   **b** Write 4 number facts using the numbers 7, 11 and your choice.

**7** Use a number line.

   **a** $48 - 13 =$ _____          ⟵————————————————————•
                                                                        48

   **b** $65 - 37 =$ _____          ⟵————————————————————•
                                                                        65

   **c**    7 7
         $-$ 2 5          ⟵————————————————————————
         _____

**Self Assessment** ☺ ☺ ☺

| Score | Basic | Sound | High |
|-------|-------|-------|------|
|       |       |       |      |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**8** Mass of Team Terriffik

| | | | | | |
|---|---|---|---|---|---|
| **Jedd** | 84 kg | **Fredd** | 92 kg | **Tedd** | 105 kg |
| **Nedd** | 97 kg | **Ledd** | 89 kg | **Stedd** | 95 kg |

**a** What is the difference between Jedd's and Stedd's masses? _____

**b** What is the difference between Tedd's and Ledd's masses? _____

**c** What is the difference between the heaviest and the
lightest member of the team? _____

**d** If Fredd lost 8 kg, what would he weigh? _____

**9** Solve the following problems.

**a** The train trip is 95 km and so far
we have travelled 37 km. How
much further do we have to go?
Explain how you worked this out.

**Working**

**Answer**

_____

_____

_____

_____

**b** We were expecting 75 people at
the meeting but only 58 attended.
How many people were absent?

**Working**

**Answer**

_____

Explain how you worked this out

_____

_____

_____

**Self Assessment** ☺ ☺ ☺

| | Score | Basic | Sound | High |
|---|---|---|---|---|
| **ACMNA055** Number and place value • Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation. | | | | |

Name

**1** Metres (m) or centimetres (cm)?

**2 a** Which two are the same length? _____

A ————————————————

B ————————————————

C ————————————————

D ————————————————

**b** Their length is _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** Measure these lines and write their lengths.

**a** |_____|     **b**     **c**

**d**

**e**

**a** _____     **b** _____     **c** _____     **d** _____     **e** _____

**4** Would you use metres (m) or centimetres (cm) to measure:

**a** the length of a hose? _____     **b** the height of a cat? _____

**c** the height of a dinosaur? _____     **d** the width of a chair? _____

**e** a baby's height? _____     **f** the length of a train? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** Estimate in centimetres:

**a** height of the door. _____     **b** height of your desk. _____

**c** length of this page. _____     **d** width of your hand. _____

**Self Assessment** ☺ ☺ ☺

| ACMMG061 Using units of measurement • Measure, order and compare objects using familiar metric units of length, mass and capacity. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

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**1** Circle pictures which have $\frac{1}{2}$ shaded.

a    b    c    d    e
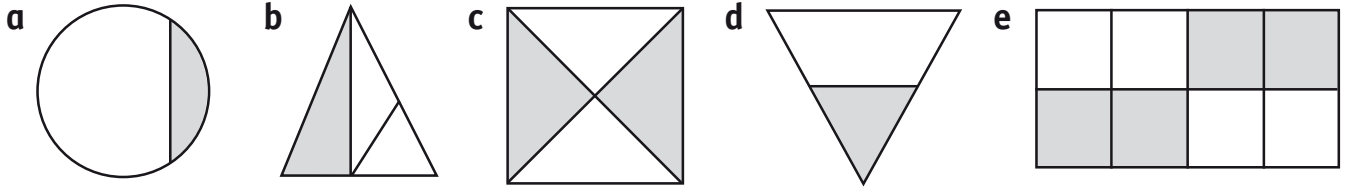
**2** Colour $\frac{1}{4}$ of each shape in different ways.

a    b    c    d
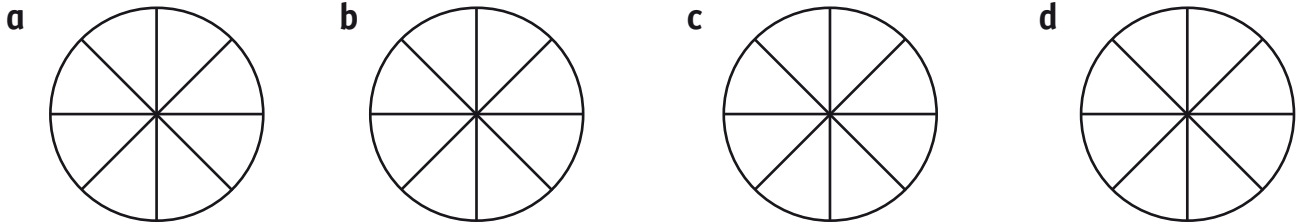
**3** What part of each group is circled?

a       b       c

_____ out of _____    _____ out of _____    _____ out of _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★
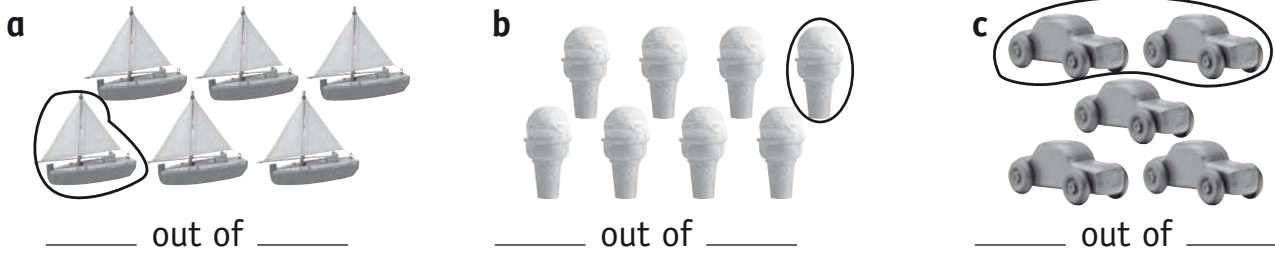
**4** Write in numbers:

a   one sixth _____    b   one eighth _____    c   one tenth _____

d   two thirds _____    e   two fifths _____

**5** Circle the fraction given.

a

three quarters

b

one seventh

c

one fifth

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★
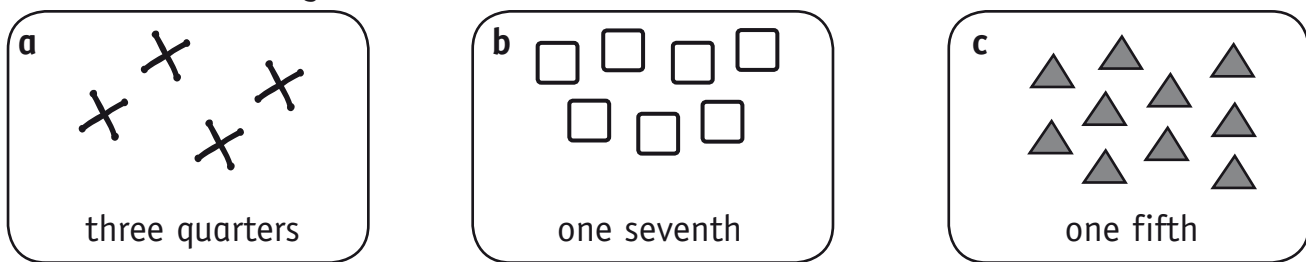
**6** Divide these shapes to show the fraction given. Which is bigger? _____

$\frac{1}{3}$

$\frac{1}{8}$

## Self Assessment ☺ ☺ ☺

| ACMNA058 Fractions and decimals • Model and represent unit fractions including $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}, \frac{1}{5}$ and their multiples to a complete whole. | Score | Basic | Sound | High |
| --- | --- | --- | --- | --- |
| | | | | |

# Patterns

**1** Draw another complete term for each pattern.

**a**
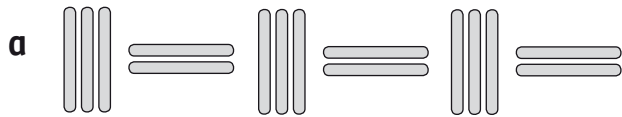
What number pattern are the sticks making?

_____

**b**
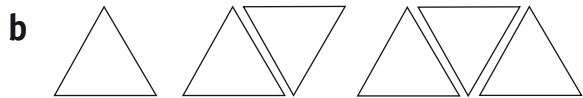
How many triangles will be in the next term? _____ the 10th term? _____

**2** Finish each pattern and write the rule.

**a** 17,     18,     19,     20,  _____    _____    _____     Rule _____

**b** 20,     18,     16,     14,  _____    _____    _____     Rule _____

**c** 80,     90,     100,   110, _____    _____    _____     Rule _____

**3** Make up your own number pattern and write the rule.

_____   _____   _____        _____   _____        Rule _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** John collects shells in a way that makes a pattern; 2 on Saturday, 4 on Sunday, 6 on Monday. On what day will he collect 12 shells if he keeps to this pattern? _____

**5** My Aunty runs 2 km every day of the week that has an 's' in it, eg Wednesday. How many km does she run every week? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**6** Write the next three terms and write the rule:

**a** 1, 2, 4, 8, _____, _____, _____        Rule _____

**b** 10, 13, 16, 19, _____, _____, _____        Rule _____

**c** 24, 21, 18, 15, _____, _____, _____        Rule _____

**7 a** Count by 4s to 28 _____  _____  _____  _____  _____  _____  _____

**b** Circle the last digit of each number.

Write the pattern here. _____  _____  _____  _____  _____  _____  _____

**c** What will be the tenth term of the 4s pattern? _____

**Self Assessment** ☺ ☺ ☺

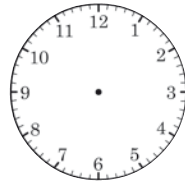| ACMNA060 Patterns and algebra • Describe, continue, and create number patterns resulting from performing addition or subtraction. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Time

**1** Draw the time.
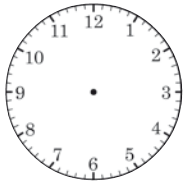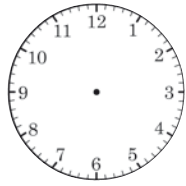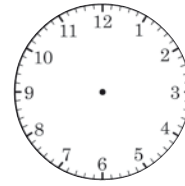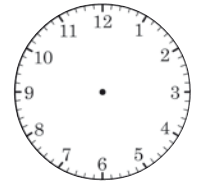
**a** 7 o'clock      **b** ½ past 3      **c** ¼ to 8      **d** 5 past 6      **e** 10 to 9

**2** Write the time on a digital clock.
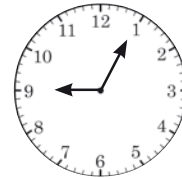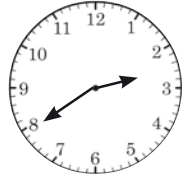
**a**    half past 4      **b**    a quarter to 9      **c**    a quarter past 5

**3** Match the times to the correct clock.

20 to 3
midday
¼ past 1
nine-oh-five
25 past 10
5 minutes to 9
½ past 7
15 minutes to 4

1:15

7:30

8:55

3:45

**4** What do you do at:

**a**   9 o'clock in the morning?   _____

**b**   1 o'clock in the afternoon?   _____

**c**   11 o'clock in the night?   _____

**5** Write three things that take about 5 minutes to do.

_____   _____   _____

**6** How many minutes between:

**a**   12 o'clock and 20 past 12? _____   **b**   8 o'clock and 9 o'clock? _____

**c**   ¼ past 5 and ½ past 5? _____   **d**   ¼ to 11 and 11 o'clock? _____
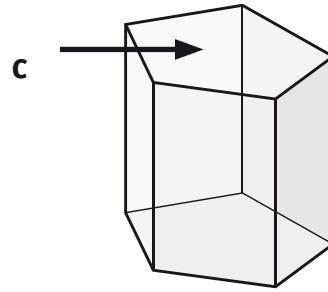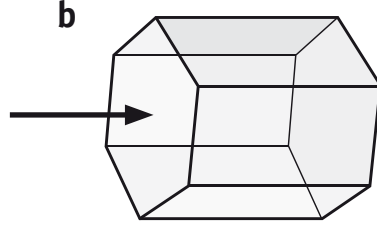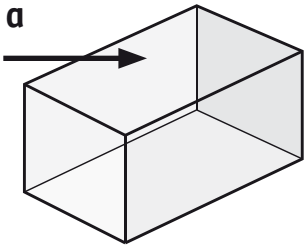
**e**   20 past 6 and 20 to 7? _____   **f**   25 past 2 and ¼ to 3? _____

**Self Assessment** ☺ ☺ ☺

| ACMMG062 Using units of measurement • Tell time to the minute and investigate the relationship between units of time. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# 3D Objects

**Name**

**1** Name the shape of each face.

a
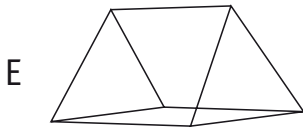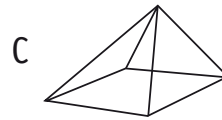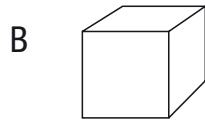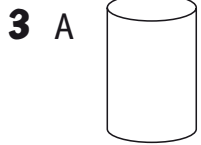
b

c

_____    _____    _____

**2** Name:

a  two objects shaped like spheres.   _____  _____

b  two objects shaped like cubes.   _____  _____

c  two objects shaped like cylinders.   _____  _____

**3** A          B          C          D

E          F          G
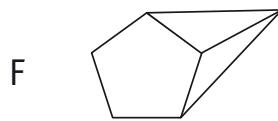
a  Name  A _____   C _____   D _____

b  Colour the sphere blue.          c  Draw a circle around the prisms.

d  Colour the pyramids green.          e  How many faces has F? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** What am I?

a  I have only one curved surface.          _____
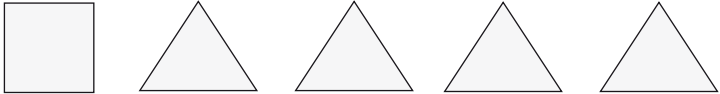
b  I have 6 square faces.          _____
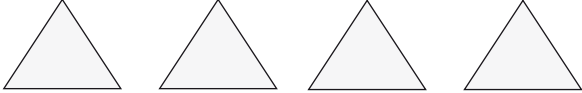
c  My base is a square and my other faces are all triangles.   _____

d  I have one flat surface and 1 curved surface.          _____

**Self Assessment** ☺ ☺ ☺

| ACMMG063 Shape • Make models of three-dimensional objects and describe key features. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**5** What 3D object could you make with these faces?

| | |
|---|---|
| **a** | _____ |
| **b** | _____ |
| **c** | _____ |
| **d** | _____ |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**6** Draw:

| a cube. | a pyramid. |
|---|---|
| | |

**7** What is the difference between a triangular prism and a triangular pyramid? Explain, draw and label.

**Self Assessment** ☺ ☺ ☺

| ACMMG063 Shape • Make models of three-dimensional objects and describe key features. | Score | Basic | Sound | High |
|---|---|---|---|---|

**1** What does this graph show?

_____

**2** Which activity is most popular?

_____

**3** Which activity is least popular?

_____

**4** How many students like to read?

_____

**5** Which two activities have the same popularity?

_____

**6** How many children were asked?

_____

**7** Which activity is your favourite?

_____

**Favourite Year 3 After-school Activities**

Activity

Talk on phone
Computer games
Visit friends
Play sport
Read
Watch TV

0  1  2  3  4  5  6  7  8  9  10
Number of students

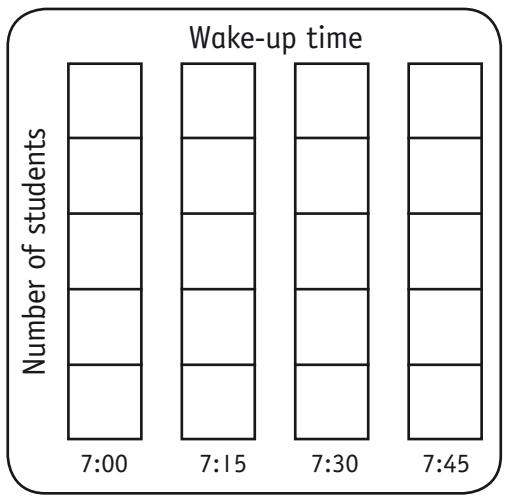★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★
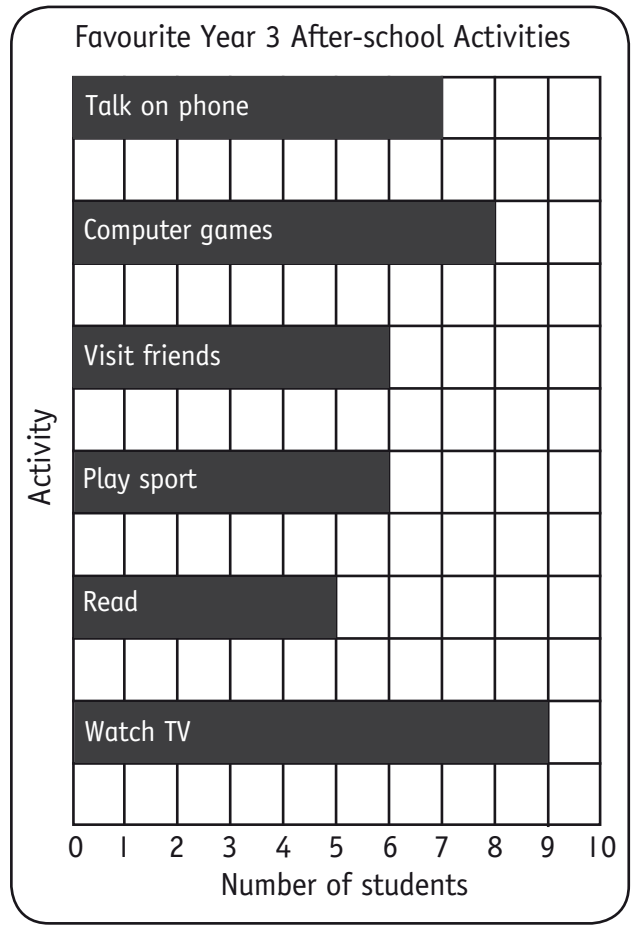
**8** Some Year 3 students want to draw a graph to show the time they wake up.

Help them by colouring the correct number of boxes.

Each ☐ shows 2 students.

| TIME | STUDENTS |
|------|----------|
| 7:00 am | 4 |
| 7:15 am | 6 |
| 7:30 am | 9 |
| 7:45 am | 5 |

**Wake-up time**

Number of students

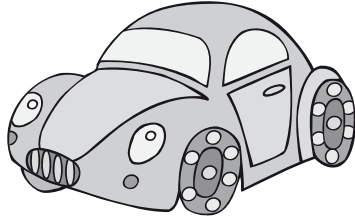7:00    7:15    7:30    7:45

**9 a** How many students were surveyed? _____

**b** True/False? More students wake before 7:30 than after 7:15.  ☐

**c** True/False? 4 students have their breakfast at 7:00.  ☐

**d** True/False? Altogether you should colour 12.  ☐

**Self Assessment** ☺ ☺ ☺

| ACMSP069 Data representation and interpretation • Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|

Name

**1**

Write sentences about these pictures describing events that are

**a** unlikely

_____

**b** likely

_____

**c** certain

_____

**d** impossible

_____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**2** When you toss a die, what are the possible outcomes?

_____

**3** **a** If there are 5 red apples in a bag, what chance do you have of choosing a green apple?

_____

**b** How can you put 5 apples in a bag so that you have a better chance of choosing a red one than a green one?

_____

**4** How many outcomes are possible:

**a** for a soccer team when they play a match?     _____

**b** for a 9 sided die when it is tossed?          _____

**Self Assessment** ☺ ☺ ☺

| ACMSP067 Chance • Conduct chance experiments, identify and describe possible outcomes and recognise variation in results. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1** Write the numbers one more than:

 **a** 29 _____ **b** 116 _____ **c** 940 _____ **d** 1245 _____ **e** 6994 _____

**2** Write the numbers one less than:

 **a** 64 _____ **b** 348 _____ **c** 550 _____ **d** 3790 _____ **e** 8002 _____

**3** Match the numbers.

| sixty-five |
| nine thousand three hundred and twelve |
| two thousand eight hundred and forty |
| four hundred and ninety-nine |
| two hundred and thirty-seven |

406     650

65      9312

499     2840

237     2191

1011    5516

| four hundred and six |
| six hundred and fifty |
| two thousand one hundred and ninety-one |
| five thousand five hundred and sixteen |
| one thousand and eleven |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4 a** 900 + 30 + 7 = ☐          **b** ☐ + 80 + 1 = 681

 **c** 1000 + 400 + ☐ + 3 = 1493     **d** 6000 + ☐ + 50 + ☐ = 6152

 **e** 8245 = ☐ + ☐ + ☐ + 5  **f** 506 = ☐ + ☐ + ☐

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** Circle the larger.

 **a** 349   3049      **b** 652   6522      **c** 1006   1060

**6** Circle the tens number.

 **a** 3490          **b** 258          **c** 1040

**7** Write these in ascending order.  4580,   4850,   4085,   580

_____

**Self Assessment** ☺ ☺ ☺

| ACMNA052 Number and place value • Recognise, model represent and order numbers to at least 10 000. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1** Use the number line to subtract.

**a** 67 minus 23

```
  6 7
− 2 3
──────
```

44  47      57      67

**b** 55 take away 32

```
  5 5
−
──────
```

55
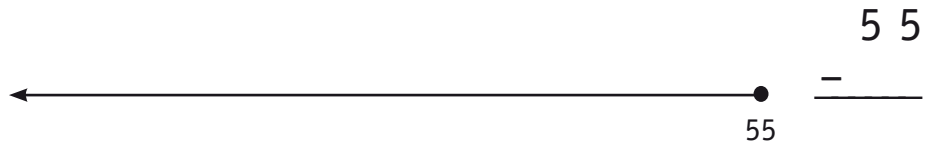
**c** subtract 13 from 51

```
  5 1
−
──────
```

51

**d** 84 less 37

```
−
──────
```

84
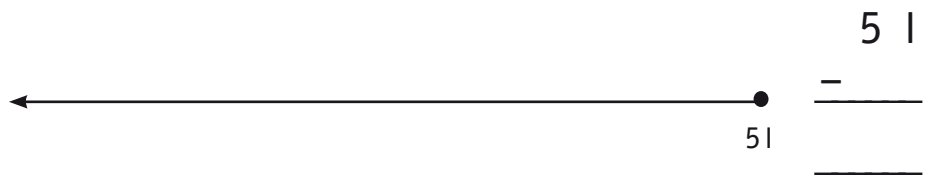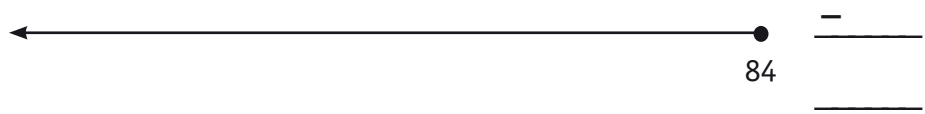
**e** difference between 83 and 35

```
−
──────
```
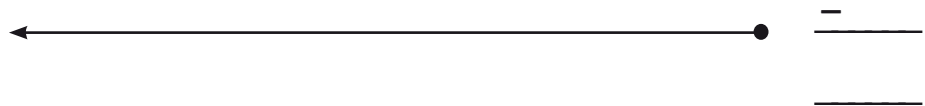
**f** 88 − 29 − 17

```
−
──────
```
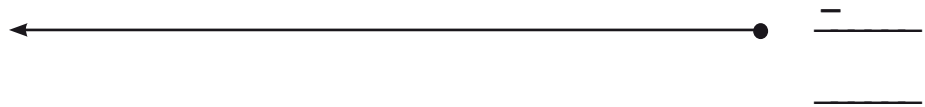
**g** 97 − 38 − 17
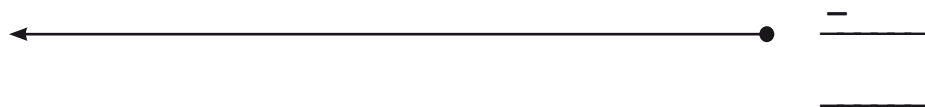
```
−
──────
```

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1**
**a** 12 – 8 = _____
**b** 12 – 9 = _____
**c** 12 – 7 = _____
**d** 13 – 8 = _____
**e** 13 – 7 = _____
**f** 13 – 9 = _____
**g** 14 – 6 = _____
**h** 14 – 8 = _____
**i** 14 – 10 = _____
**j** 15 – 8 = _____
**k** 15 – 9 = _____
**l** 15 – 7 = _____
**m** 16 – 9 = _____
**n** 16 – 12 = _____
**o** 16 – 8 = _____
**p** 17 – 8 = _____
**q** 17 – 12 = _____
**r** 17 – 11 = _____

**2** Difference between:
**a** 16 and 10 _____
**b** 20 and 12 _____
**c** 18 and 13 _____
**d** 30 and 15 _____
**e** 26 and 13 _____
**f** 28 and 18 _____

**3** Write 2 number sentences for each.

**a** –42     **b** –29

65

**c** –38     **d** –33

**a** 65 – 40 – 2 = _____,     65 – 42 = _____

**b** ☐ – ☐ – ☐ = _____,     ☐ – ☐ = _____

**c** ☐ – ☐ – ☐ = _____,     ☐ – ☐ = _____

**d** ☐ – ☐ – ☐ = _____,     ☐ – ☐ = _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** The answers are wrong. Circle the wrong digit then write the correct answer.

**a** 5 9
– 2 3
_____
7 6
_____

**b** 8 4
– 2 1
_____
5 3
_____

**c** 6 7
– 2 1
_____
4 8
_____

**d** 3 5
– 1 2
_____
2 7
_____

**e** 5 6
– 3 6
_____
8 0
_____

**Self Assessment** ☺ ☺ ☺

| | Score | Basic | Sound | High |
|---|---|---|---|---|
| **ACMNA055** Number and place value • Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation. | | | | |

# Subtraction strategies

**5** Write three more facts.

**a** 16 − 9 = _____     16 − 7 = _____     7 + 9 = _____     9 + 7 = _____

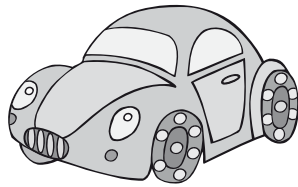**b** 13 − 4 = _____     _____     _____     _____

**c** 14 − 8 = _____     _____     _____     _____
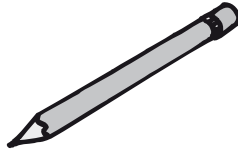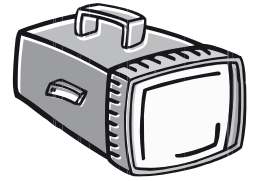
**6**

| 75c | 90c | 45c | 65c | 60c |

In a sale 25c was taken off each price. Write the new prices.

book _____     car _____     pencil _____     cake _____     torch _____

**7** Count on to complete.

| | 47 | 39 | 45 | 49 | 40 | 48 | 50 | 43 |
|---|---|---|---|---|---|---|---|---|
| −38 | | | | | | | | |

**8** Fill in the gaps.

**a**   7☐
   − 2 5
   ☐4

**b**   ☐9
   − 3 4
   5☐

**c**   ☐☐
   − 5 3
   2 0

**d**   8 6
   −☐☐
   5 1

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**9** Write a story and a question to match the number sentence:

**a** 36 − 14 = 12 metres

_____

**b** 50 − 35 = 15 boys

_____

**c** 28 − 13 = 15 frogs

_____

**10** Dad told me he had two amounts of money which had a difference of $4.50.
The amounts were between $10 and $20. What amounts might he have?   _____

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

Name

**1** Colour the fraction. Write the name of a smaller fraction.

a $\frac{2}{3}$

b $\frac{4}{5}$

_____

_____

**2** 4 men get two slices of a pizza each and there is none left. How much of the pizza did each man get? _____
Draw each man's share.

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★    ★★★

**3** Complete:

a $\frac{1}{5}$, $\frac{2}{5}$, _____, _____, $\frac{5}{5}$
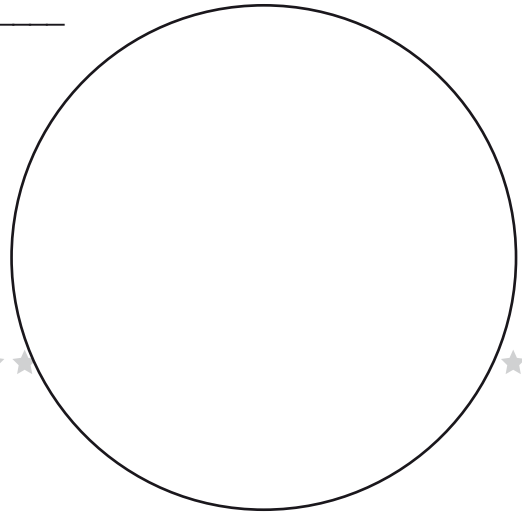
b $\frac{1}{8}$, $\frac{2}{8}$, _____, _____, _____, _____, _____, 1

**4** Complete the sequence of mixed numbers.

a 0    $\frac{1}{4}$    $\frac{1}{2}$    $\frac{3}{4}$    1    _____    _____    _____    2

b 0    $\frac{1}{3}$    $\frac{2}{3}$    1    _____    _____    _____

**5** Place these mixed numbers in order, smallest to largest.

a $1\frac{1}{2}$ , $2\frac{1}{2}$ , 2 , $\frac{1}{2}$ , 1,    _____

b $2\frac{1}{5}$ , $1\frac{1}{5}$ , 2 , $\frac{1}{5}$ , 1,    _____

**6** Draw a diagram to show:

a $\frac{1}{4}$ of 16 stars.

b $\frac{1}{3}$ of 6 bananas.

**Self Assessment** ☺ ☺ ☺

| ACMNA058 Fractions and decimals • Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and their multiples to a complete whole. | Score | Basic | Sound | High |
| --- | --- | --- | --- | --- |
| | | | | |

# Money

Colour the bubble beside the correct answer.

**1** Australian notes are:

  ◯ $2, $5, $10, $100

  ◯ $5, $10, $20, $50

  ◯ $5, $10, $20, $50, $100

  ◯ $2, $1, 50c, 20c, 10c, 5c

**2** Australian coins are:

  ◯ 20c, 5c, 10c, 50c, $1

  ◯ 10c, 5c, 2c, 1c, 20c

  ◯ $2, $1, 50c, 20c, 10c, 5c

  ◯ $1, $2, $5, $10, $20

**3** Colour the correct coins to make:

**a** $2.65



**b** $3.85



★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** True/false?

Japanese currency is Yen and the sign is ¥. _____

Japanese currency is Yen and the sign is Y _____

Australian currency is based on 100c = $10 _____

**5** Add 80c to:

**a** $2.10 _____ **b** $3.20 _____ **c** $1.60 _____

**d** $4.30 _____ **e** $10 _____ **f** $0.45 _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**6** Round to the nearest dollar.

**a** $4.65 _____ **b** $0.50 _____ **c** $8.70 _____

**7** The supermarket bill was $14.52 but Mrs Treff paid $14.50. Why? _____

_____

**8** Burgers are $5.50, drinks are $2.20 and chips are $2.50. If I have one of each, will $10 be enough? _____

**9** If I pay for the items above with $10 and $2, what change will I receive? _____

**Self Assessment** ☺ ☺ ☺

| ACMNA059 Money and financial mathematics • Represent money values in multiple ways and count the change required for simple transactions. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Number patterns

**Name**

**1** **a** Add 6        6, 12, 18, 24, _____ , _____ , _____ , _____

   **b** Subtract 4        40, 36, 32, 28, _____ , _____ , _____ , _____

   **c** ×2        1, 2, 4, 8, _____ , _____ , _____ , _____

**2** Complete these patterns.

| **a** 28 + 5 = 33 | **b** 63 − 6 = 57 | **c** 57 + 9 = 66 |
| --- | --- | --- |
| 38 + 5 = ____ | 53 − 6 = ____ | 67 + 9 = ____ |
| 48 + 5 = ____ | 43 − 6 = ____ | 77 + 9 = ____ |
| ____ + ____ = ____ | ____ − ____ = ____ | ____ + ____ = ____ |
| ____ + ____ = ____ | ____ − ____ = ____ | ____ + ____ = ____ |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** This trumpet makes a pattern of numbers by adding 3.
What do these numbers become if they are blown into the trumpet?

+3
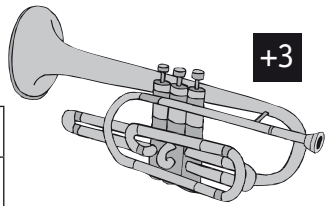
| **IN** | 0 | 4 | 9 | 17 |
| --- | --- | --- | --- | --- |
| **OUT** | 3, ___, ___ | ___, ___, ___ | ___, ___, ___ | ___, ___, ___ |

**4** **a** Benni's pattern: 5, 10, 20, 40, _____        What is Benni's rule? _____

   **b** Max's pattern: 42, 39, 36, 33, _____        What is Max's rule? _____

   **c** Mrs Watts' pattern: 0·6, 0·8, 1·0, 1·2        What is her rule? _____

   **d** Professor Gumly's pattern: 3, 7, 11, 15        Will 27 be in the pattern? _____

   **e** Mr Rudd's pattern: 6, 12, 18, 24        Will 38 be in his pattern? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** My Uncle Foxy had a party but only allowed people carrying the right objects,
according to a pattern. Can you decide what the pattern is, from these clues?

| **Name** | **Object** | **Yes/No** |
| --- | --- | --- |
| Jak | jelly | yes |
| Cal | watermelon | no |
| Joh | cheese | yes |
| Len | apples | yes |

Rule? _____

Will Harry, bringing berries, be allowed into the party? _____
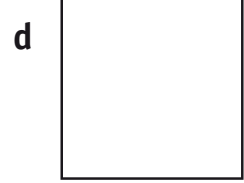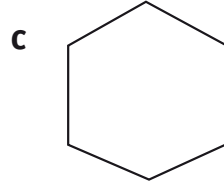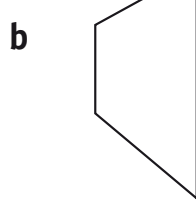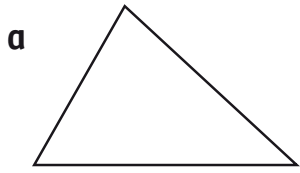
Why? _____

**Self Assessment** 😊 😊 😊

| ACMNA060 Patterns and algebra • Describe, continue, and create number patterns resulting from performing addition or subtraction. | Score | Basic | Sound | High |
| --- | --- | --- | --- | --- |
| | | | | |

**Name**

**1** Name these shapes.

a

b

c

d

_____     _____     _____     _____

**2** Draw:

| 2 parallel lines. | a parallelogram. | a trapezium. |
|---|---|---|
|  |  |  |

**3** Complete.

| Shape | Name | Sides | Angles |
|---|---|---|---|
|  | Rectangle |  |  |
|  |  |  |  |
|  |  | 8 |  |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** Circle the part that means three.   triangle

Circle the part that means six.      hexagon

Circle the part that means five.     pentagon

In 'octagon', what does 'octa' mean? _____

**Self Assessment** ☺ ☺ ☺

| **Revise: ACMMG042** Shape • Describe and draw two-dimensional shapes, with and without digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|
|  |  |  |  |  |

Name

**5** Circle the parallelograms.

**a**      **b**      **c**      **d**

**e**      **f**

**6**

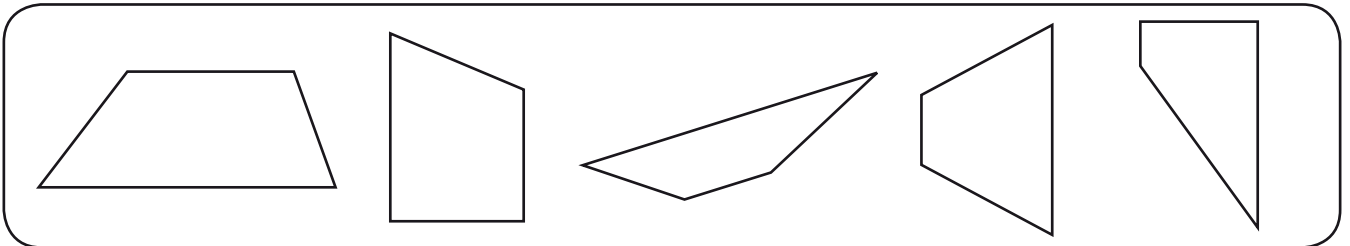A    B    C    D

E    F    G
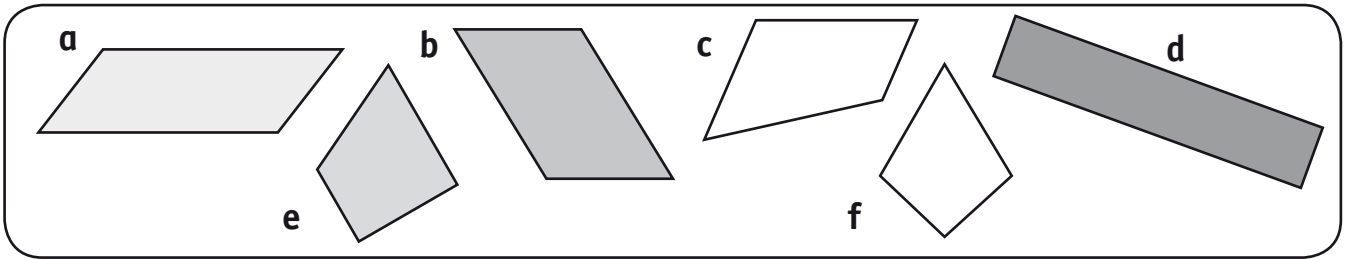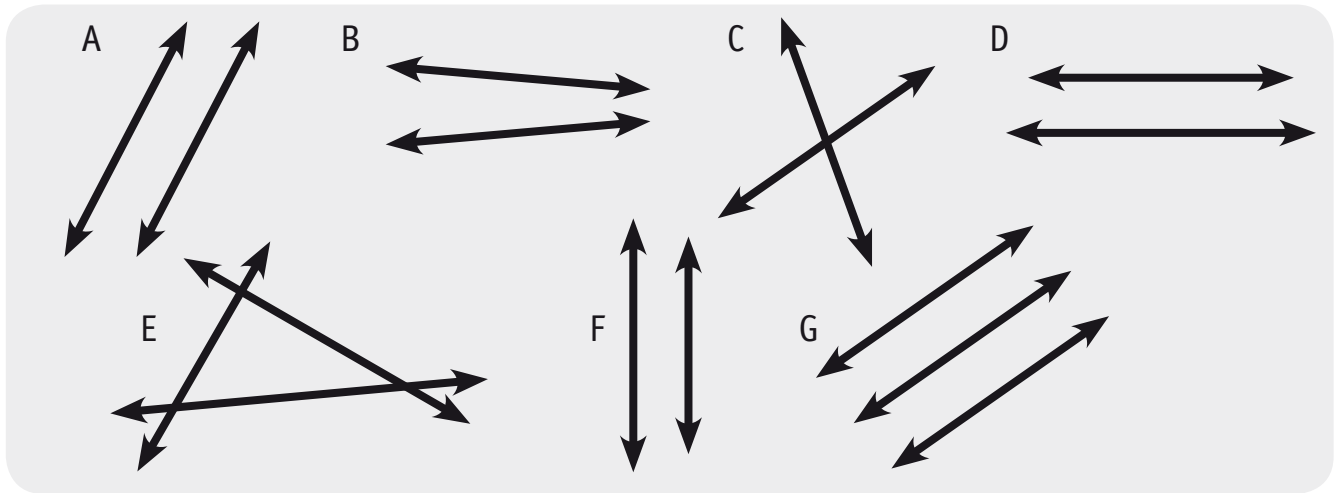
**a** Which ones show parallel lines? _____

**b** The lines in C are not parallel. Why? _____

**c** Rule three different pairs of parallel lines.

**7**

Each shape is a trapezium. Cross the parallel sides.

**Self Assessment**

| Revise: ACMMG042 Shape • Describe and draw two-dimensional shapes, with and without digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|
|  |  |  |  |  |

# Capacity

**1** Litres (L) or millilitres (mL)?

   **a** a dose of medicine _____

   **b** water in a bathtub _____

   **c** a small drink bottle _____

   **d** a carton of cream _____

   **e** a large paint can _____

   **f** a swimming pool _____

**2** Name something which could be sold in:

   **a** a 1 litre carton. _____

   **b** a 2 L bottle. _____

   **c** a 100 mL bottle. _____

   **d** a 10 L can. _____

**3** How much drink is in each container?

   **a** 400 mL / 200 mL

   **b** 3 L / 1 L

   **c** 4 L / 2 L

   **d** 4 L / 2 L

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★
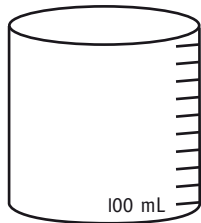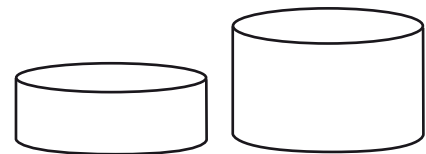
**4**
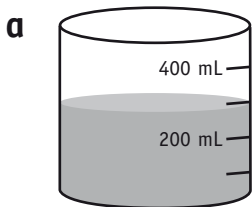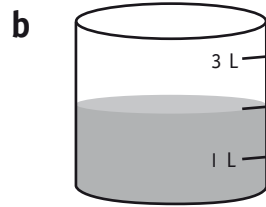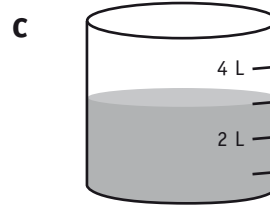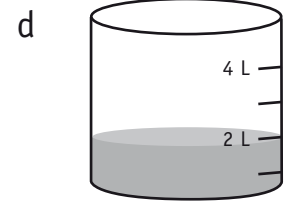
   100 mL

   **a** What is the capacity of this container? _____

   **b** Colour $\frac{1}{2}$ L.

**5** **a** I have a 300 mL container and a 100 mL container. How can I measure exactly 1 L using only these containers?

**6** True/False?

   **a** A car holds 50 L petrol. _____

   **b** The capacity of a teapot is 10 L. _____

   **c** A glass holds 1200 mL liquid. _____

   **d** A dose of medicine is 5 mL. _____

**Self Assessment** ☺ ☺ ☺

| ACMMG061 Using units of measurement • Measure, order and compare objects using familiar metric units of length, mass and capacity. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Time facts

**1** Colour red for am and blue for pm.

Order the activities in the order you do them (1–6).

**a** go to bed _____    **b** eat morning tea _____

**c** start school _____    **d** wake up _____

**e** eat dinner _____    **f** finish school _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**2** How many:

**a** seconds in 1 minute? _____    **b** months in 1 year? _____

**c** hours in 1 day? _____    **d** minutes in 1 hour? _____

**e** days in 1 fortnight? _____    **f** weeks in 1 year? _____

**3** Circle the earliest time, cross the latest time.

| 8 : 41 am | 7 : 10 pm | 3 : 43 pm | 10 : 22 am |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** How many minutes:

**a** in our break at school? _____

**b** for our school assembly? _____
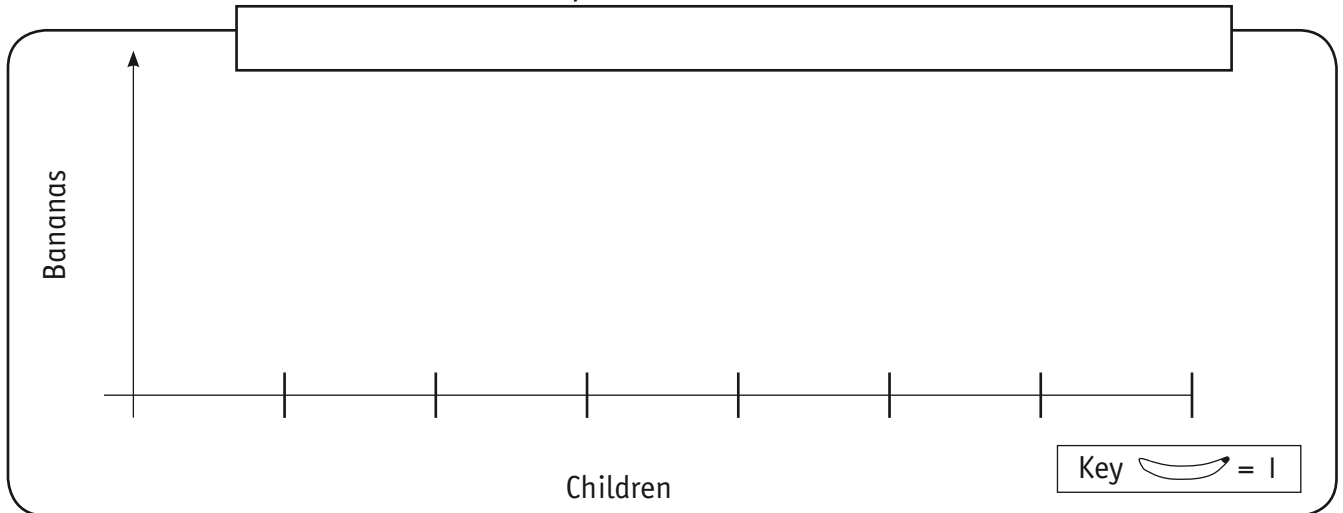
**c** in a school day? _____

**Self Assessment** ☺ ☺ ☺

| ACMMG062 Using units of measurement • Tell time to the minute and investigate the relationship between units of time. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Data

**1** Some children held a banana-eating contest. Sam ate 6, Ellen ate 4, Freya ate 5, Jim ate 8, Jill ate 1, Tim ate 4 and Toby ate $3\frac{1}{2}$.

**a** Draw this information in a Picture Graph.

Bananas

Children

Key $\smile$ = 1

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**b** Write a title for your graph.

**c** Who ate the most? _____ the least? _____

**d** Who ate the same number? _____ _____

**e** How many did they eat altogether? _____

**f** Write two questions of your own about your graph.

- _____

- _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**2 a** Present this information in a table.

| Name | Bananas |
|------|---------|
|      |         |
|      |         |
|      |         |
|      |         |
|      |         |
|      |         |
|      |         |

**b** Which is better: a table or a picture graph?

_____

**c** Why? _____

_____

**d** Name another way to show this information.

_____

## Self Assessment ☺ ☺ ☺

| ACMSP070 Data representation and interpretation • Interpret and compare data displays. | Score | Basic | Sound | High |
|---|---|---|---|---|
|  |  |  |  |  |

**Name**

**1** Find the total.

**a**

_____ + _____ = _____

**b**

_____ + _____ = _____

**2**
**a**   2 3 5   **b**   3 4 4   **c**   6 7 2   **d**   7 8 1   **e**   3 5 2   **f**   8 1 9
  +   2 3   +   1 5   +   2 6   +   1 8   +   3 5   +   7 0

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** How much do I spend if I buy:

**a**   an apple and grapes?   _____

**b**   2 oranges?   _____

**c**   a banana, a pear and grapes?   _____

**d**   2 pears and a banana?   _____

**e**   one of everything?   _____

$1.55

$2.45

$1.60

$3.35

$2.65

**4**

43   36
54         67
  + 29
28         12
70   51

**5**
**a**     3 ☐
    +  2   6
       ☐   8
    ─────────

**b**     5   3
    +  1   ☐
       ☐   7
    ─────────

**c**     ☐   ☐
    +  5   5
       8   9
    ─────────

**d**     ☐   0
    +  6   ☐
       8   7
    ─────────

**Self Assessment** ☺ ☺ ☺

| Score | Basic | Sound | High |
| --- | --- | --- | --- |
|  |  |  |  |

Name

**1  a**  Count by 3s from 0 to 50.

_____

**b**  Count by 4s from 0 to 80.

_____

**c**  Count by 5s from 0 to 100.

_____

**2  a**  How many groups? _____

**b**  How many hats in each group? _____

**c**  How many hats altogether? _____

**d**  _____ + _____ + _____ + _____ =

**e**  _____ × _____ = _____

**3  a**  How many groups? _____

**b**  How many pumpkins in each group? _____

**c**  How many pumpkins altogether? _____

**d**  _____ + _____ + _____ + _____ + _____ + _____ = _____

**e**  6 × _____ = _____

**4**  Use different colours to match.

| | | | |
|---|---|---|---|
| **a**  3 + 3 + 3 | five fours | 1 × 10 | 20 |
| **b**  4 + 4 + 4 + 4 + 4 | one bundle of 10 | 3 × 3 | 12 |
| **c**  6 + 6 | 3 groups of 3 | 5 × 4 | 10 |
| **d**  10 | six times 8 | 2 × 6 | 9 |
| **e**  8 + 8 + 8 + 8 + 8 + 8 | 2 lots of 6 | 6 × 8 | 48 |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**Self Assessment** ☺ ☺ ☺

| ACMNA057 Number and place value • Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**5** Draw a diagram and give the answer.

| **a** 4 rows of 5 | **b** 6 rows of 3 | **c** 5 rows of 9 |
|---|---|---|
| _____ | _____ | _____ |

**6** **a**    8
   × 5
_____

**b**    6
   × 3
_____

**c**    4
   × 8
_____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**7** **a**    10
   × 10
_____

**b**    9
   × 9
_____

**c**    7
   × 7
_____

**8** Complete:

**a**   Nan sent 8 boxes of apples to Market each day for 6 days. How many boxes did she send altogether?                                    Working

What?

How?

Answer: _____

**b**   We had 12 visitors every day for 3 days.  How many visitors did we have altogether?                                    Working

What?

How?

Answer: _____

Explain how you worked out your answer.

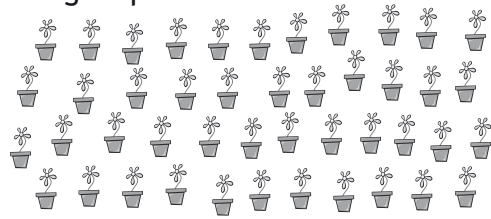_____

_____

**Self Assessment** ☺ ☺ ☺
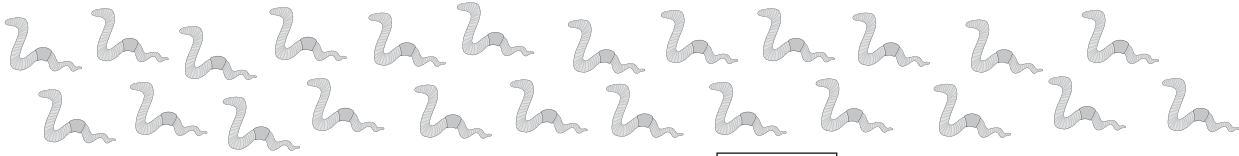
# Division

**1** Circle groups of 6.
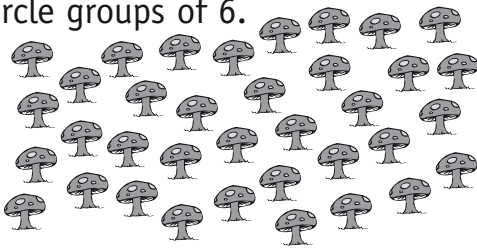
**a** How many mushrooms? _____

**b** How many groups? _____

**c** How many in each group? _____

**2** Circle groups of 5.

**a** How many flower pots? _____

**b** How many groups? _____

**c** How many in each group? _____

**3**

**a** How many groups of 6 worms? ☐ groups

**b** How many groups of 3 worms? ☐ groups

**c** How many groups of 8 worms? ☐ groups

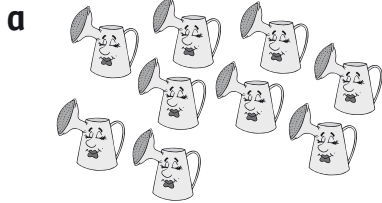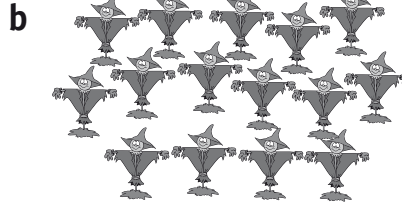**d** How many groups of 4 worms? ☐ groups
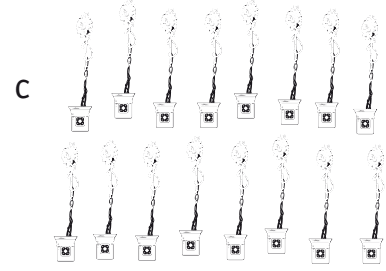
**4** What are fair shares? _____

**5** Circle to make fair shares. How many in each share?

**a**

3 shares _____

**b**

5 shares _____

**c**

4 shares _____

**6** Use skip counting or diagrams.

**a** Share 25 apples into 5 bags. How many in each bag? _____

**b** Share 48 sweets into 6 boxes. How many in each box? _____

**c** Put 45 pencils into 5 cups. How many in each cup? _____

**d** Place 27 10c coins into 3 piles. How many in each pile? _____

**Self Assessment** ☺ ☺ ☺

| ACMNA056 Number and place value • Recall multiplication facts of two, three, five and ten and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

Name

**1** How many in 1 whole?

  **a** halves _____    **b** quarters _____    **c** fifths _____    **d** tenths _____

**2** Joe has 12 oranges. How many make:

  **a** $\frac{1}{2}$ ? = _____    **b** $\frac{1}{4}$ ? = _____    **c** $\frac{1}{3}$ ? = _____    **d** $\frac{3}{4}$ ? = _____

**3** Match using different colours.

| | | |
|---|---|---|
| $\frac{4}{10}$ | 2 out of 3 equal parts | four-tenths |
| $\frac{1}{4}$ | 4 out of 10 equal parts | two-eighths |
| $\frac{2}{3}$ | 2 out of 8 equal parts | one-quarter |
| $\frac{2}{8}$ | 1 out of 4 equal parts | two-thirds |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4 a** Mary ate $\frac{1}{5}$ of her 10 grapes. How many did she eat? _____

  **b** Tim gave away $\frac{1}{3}$ of his 9 marbles. How many did he give away? _____

  **c** Ann broke $\frac{1}{4}$ of her 16 pencils. How many were broken? _____

**5** Circle the larger fraction.

  **a** $\frac{1}{2}$, $\frac{1}{4}$    **b** $\frac{1}{8}$, $\frac{1}{4}$    **c** $\frac{1}{2}$, $\frac{8}{10}$    **d** $\frac{3}{6}$, $\frac{1}{4}$    **e** $\frac{1}{2}$, $\frac{2}{5}$

**6** True or false?

  **a** $\frac{4}{8} = \frac{1}{2}$ _____    **b** $\frac{1}{3} < \frac{1}{6}$ _____    **c** $\frac{1}{5} > \frac{1}{10}$ _____    **d** $\frac{1}{5} = \frac{2}{10}$ _____    **e** $\frac{3}{4} = \frac{3}{8}$ _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**7** Mark and colour the given fraction:

  **a** Which is the larger, $\frac{3}{4}$ or $\frac{6}{10}$? _____

  **b** Which is smallest of all?  _____

  **c** Which is closest to 1?  _____

  **d** Which is smaller, $\frac{7}{8}$ or $\frac{3}{4}$?  _____

$\frac{3}{4}$ [            ]

$\frac{2}{5}$ [            ]

$\frac{6}{10}$ [            ]

$\frac{7}{8}$ [            ]

**Self Assessment** ☺ ☺ ☺

| ACMNA058 Fractions and decimals • Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and their multiples to a complete whole. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1** Write the pattern of 9s from 0 to 100.

_____

**2 a** Write the ones digit of each multiple of 9 in order.

_____

   **b** What do you notice? _____

**3** Write the multiples of 4 to 50. _____

**4** Write the multiples of 8 to 80. _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** Write the missing term. Write the reason for your answer.

   **a** 27,  36,  _____,  54,  63,  72

   Reason _____

   **b** $2.00,  $1.95,  $1.90,  _____,  $1.80, $1.75

   Reason _____

   **c** 15,  21,  27,  _____,  39,  45

   Reason _____

**6** Look at Q3 and 4 above. Complete:

   **a** The multiples of 8 are _____ the multiples of 4.

   **b** The multiples of 4 are _____ the multiples of 8.

   **c** This is because 4 is _____ of 8 and 8 is _____ 4.

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**7** Complete this table.

| Order of term | 1 | 2 | 3 | 4 |    |
|---------------|---|---|---|---|----|
| Term          | 3 | 7 |   |   | 19 |

**8** Circle the term in each row that does not belong.  Give a reason.

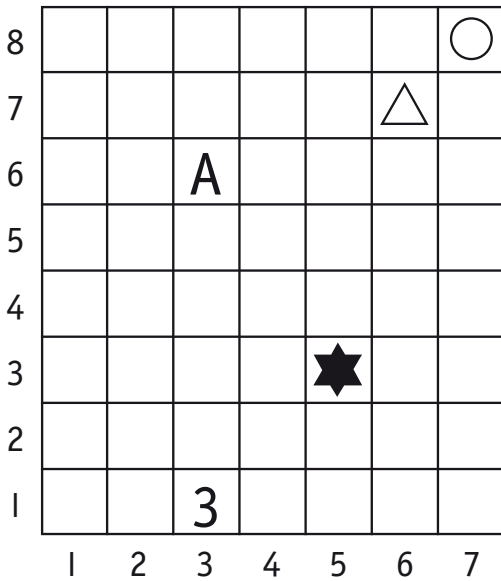   **a** 12, 15, 18, 21, 25, 27, 30 _____

   **b** 64, 60, 55, 52, 48 _____

   **c** 90, 180, 270, 350, 450 _____

**Self Assessment** ☺ ☺ ☺

| ACMNA060 Patterns and algebra • Describe, continue, and create number patterns resulting from performing addition or subtraction. | Score | Basic | Sound | High |
|---|---|---|---|---|

**I**  **a**  Colour the square at row 4 column 5 red.

**b**  Put a cross 2 squares under the star.

**c**  Place a dot directly above A.

**d**  Colour the last square in row 5 green.

**e**  Draw a sun 3 squares to the left of the star.

**2**  Write the position of:

**a**  the star. _____

**b**  A. _____

**c**  the triangle. _____

**d**  the circle. _____

**3**  **a**  Use red to draw the shortest path from A to B.

**b**  Use green to draw the shortest path from C to D.

**c**  Use blue to draw the shortest path from B to E.

**d**  I am at E. I leave my house, turn left, walk to the end of the street, turn left again and cross one more street to visit my friend. Who is my friend? _____
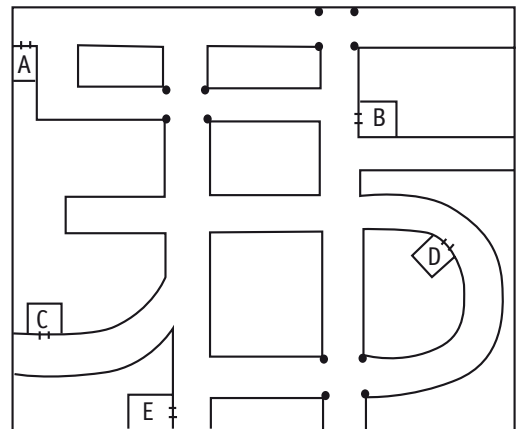
**4**  Where are we going?

‾ ‾  ‾ ‾ ‾  ‾ ‾ ‾ ‾ ‾ ‾
a b   c d e   f g h i j k

**a** and **c**  column 2 row 6

**b**  column 4 row 4

**d**  column 3 row 2

**e**  column 5 row 6

**f** and **i**  column 1 row 5

**g**  column 3 row 3

**h**  column 5 row 1

**j**  column 2 row 4

**k**  column 4 row 3

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 6 | N | T | J | F | E |
| 5 | C | H | B | U | P |
| 4 | Q | U | Y | O | M |
| 3 | G | V | I | S | D |
| 2 | W | Z | H | K | X |
| 1 | A | C | T | L | R |

**Self Assessment**  ☺ ☺ ☺

| Score | Basic | Sound | High |
|---|---|---|---|
| | | | |

# Mass

**1** Tick the correct column.

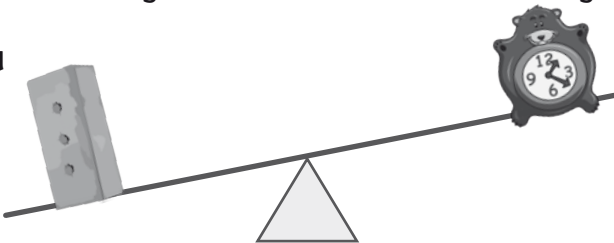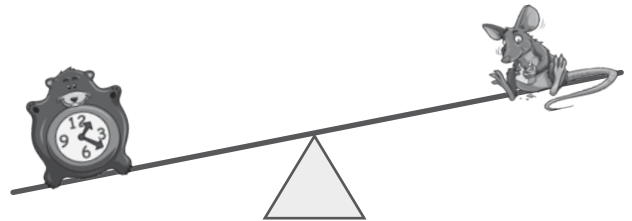|   | Object | Less than 1 kg | About 1 kg | More than 1 kg |
|---|---|---|---|---|
| **a** | a dog | | | |
| **b** | a library book | | | |
| **c** | a carton of milk | | | |
| **d** | a pair of socks | | | |
| **e** | 5 apples | | | |
| **f** | a tennis ball | | | |

**2**
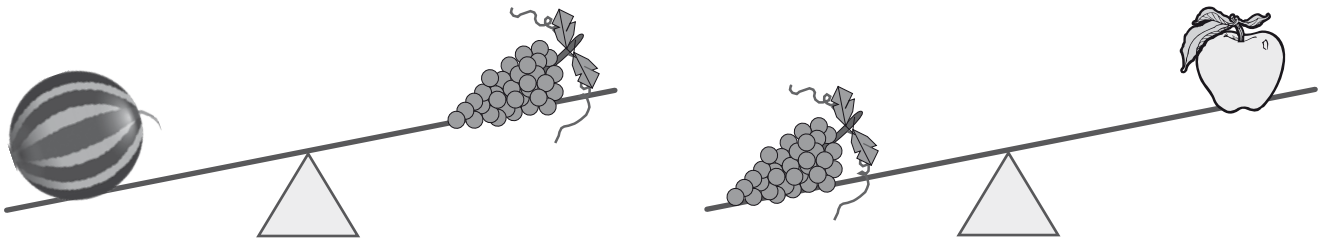
Which weighs most? Circle:   melon   grapes   apple.

**3 a**

**b**

Tick the true sentence:

brick = 2 kg, clock = 1 kg ☐          clock = 500 g, mouse = 650 g ☐

brick = 2 kg, clock = 3 kg ☐          clock = 500 g, mouse = 280 g ☐

**4** Order 1 = lightest to 4 = heaviest.

1 _____   2 _____   3 _____   4 _____

**Self Assessment** ☺ ☺ ☺

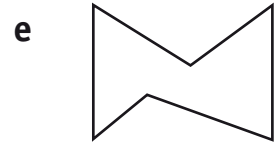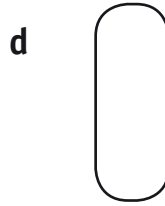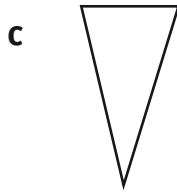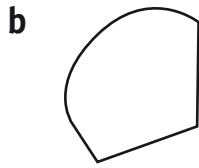| ACMMG061 Using units of measurement • Measure, order and compare objects using familiar metric units of length, mass and capacity. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# 2D Symmetry

**1**  Circle the shapes that are symmetrical.

**a**          **b**          **c**          **d**          **e**
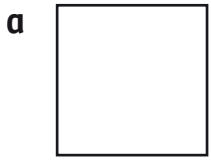
**2**  Draw lines of symmetry.

**a**          **b**          **c**

**d**          **e**          **f**
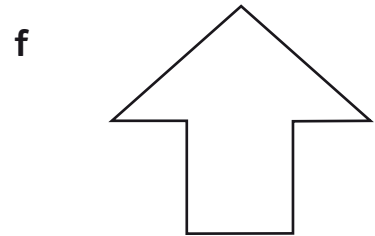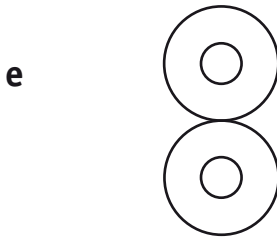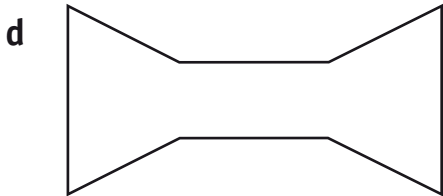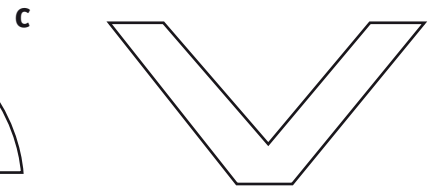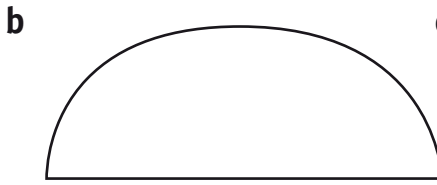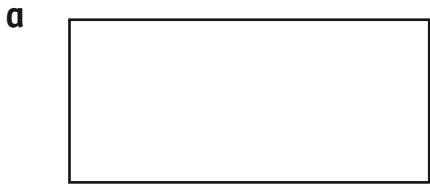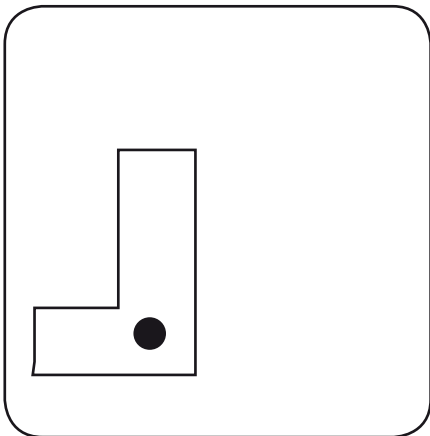
**3 a**  Turn the shape.          **b**  Complete to make a symmetrical drawing.
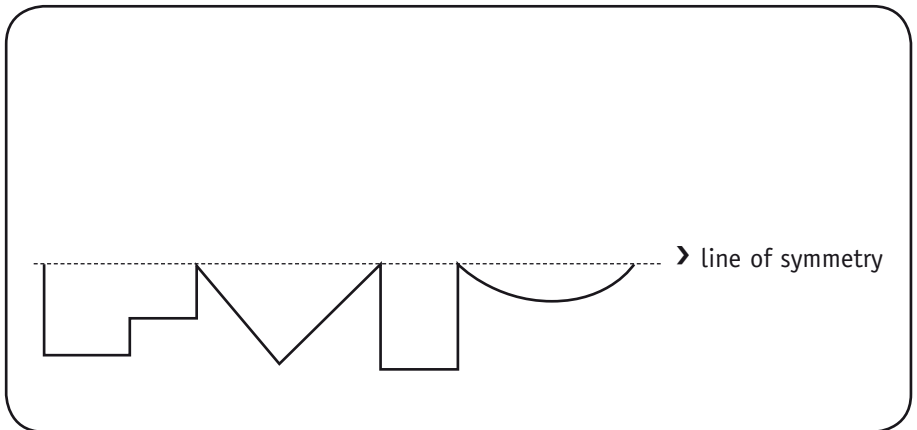
> line of symmetry

**Self Assessment**

| Score | Basic | Sound | High |
|-------|-------|-------|------|
|       |       |       |      |

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**1** Arrange these actions in order of longest time to shortest time.

   **a** drive to another town, fly across Australia, ride a bike to your friend's house

   _____

   **b** you run 100 m, you skip 100 m, you bunny hop 100 m

   _____

**2** Write three things that take about an hour to do.

   _____  _____  _____

**3** Write three things that take about five minutes to do.

   _____  _____  _____

**4** How many hours from:

   **a** 7 o'clock until 11 o'clock? _____    **b** 12 o'clock until 4 o'clock? _____

   **c** 5:30 until 9:30? _____    **d** 10:30 until 2:30? _____

   **e** 9 o'clock until 1 o'clock? _____    **f** 3:30 until 1:30? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** How many minutes from:

   **a** 3:30 until 3:55? _____    **b** 12:15 until 12: 40? _____

   **c** 9:50 until 10:10? _____    **d** 2:23 until 2:34? _____

   **e** 10:55 until 11:07? _____    **f** 11:09 until 12:00? _____

**6 a** How many times does the hour hand go around the clock-face in a day? _____

   **b** How many minutes go by while the minute hand goes from 1 to 2? _____

   **c** How many hours go by while the hour hand goes from 1 to 2? _____

   **d** The minute hand takes _____ minutes to move between 3 and 7 on the clock.

   **e** The hour hand takes _____ to move between 3 and 7 on the clock.

**7** Write digital time for:

   **a** a quarter to 6.    **b** a quarter past 12.    **c** 20 to 4.
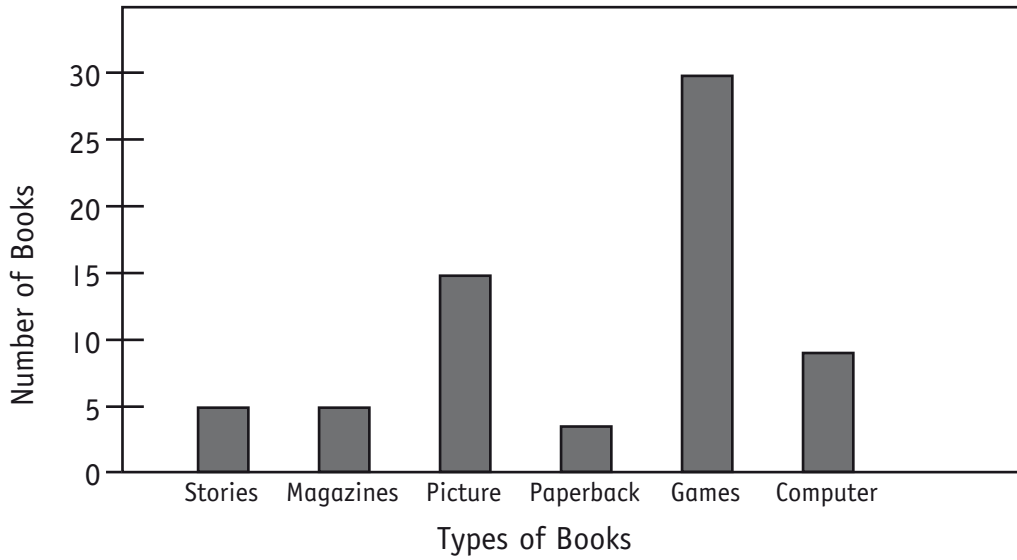
**Self Assessment** ☺ ☺ ☺

| ACMMG062 Using units of measurement • Telling time to the minute and investigate the relationship between units of time. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1**

### Books Borrowed from the Library



**a** How many picture books were borrowed? _____

**b** Which type of book was most popular? _____

**c** Which type of book was least popular? _____

**d** How many books were borrowed altogether? _____

**e** The library made a mistake. 20 computer books were borrowed. Change the graph to show this.

**f** The library also forgot to show that 25 nonfiction books were borrowed. Add this column to the graph. Don't forget the label.

**2** Study this Bus Roll. Answer the questions on the next page.

| Name | Year | Phone Number | Suburb |
|------|------|--------------|--------|
| Macey, Jessie | 3 | 0415 687 322 | Grenville |
| Mandin, Mel | 3 | 0418 666 290 | Grenville |
| Massey, Kevin | 4 | 0415 388 922 | Pulsar |
| Massey, Kristy | 4 | 0415 388 922 | Pulsar |
| Menard, Diane | 4 | 0416 828 654 | Grenville |
| Messine, Jo | 5 | 0444 123 987 | Shrivey |

**Self Assessment** ☺ ☺ ☺

| ACMSP069 Data representation and interpretation • Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

See previous page for the Bus Roll.

**a** Number of students in Year 3 _____, 4 _____, 5 _____

**b** Students from Grenville _____ Pulsar _____ Shrivey _____

**c** True/False. The students' names are arranged alphabetically. _____

**d** True/False. All the Grenville students are in Year 3. _____

**e** What suburb does Kristy Massey come from? _____

**f** Whose phone number is 0418 666 290? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** Tally these aircraft seen at the Airshow. Add a title.

_____

| Type of aircraft | Tally | Total |
|---|---|---|
|  |  |  |
|  |  |  |
|  |  |  |

**4** Make a column graph to show this information.

Remember all the labels
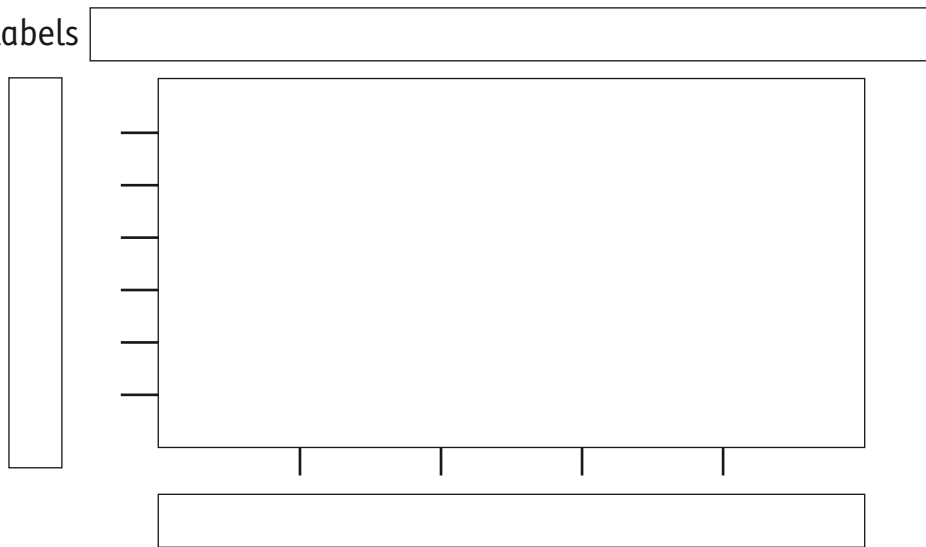
**5** Who would use the information in this graph? _____

**6** What does this graph tell them? _____
_____

**Self Assessment** ☺ ☺ ☺

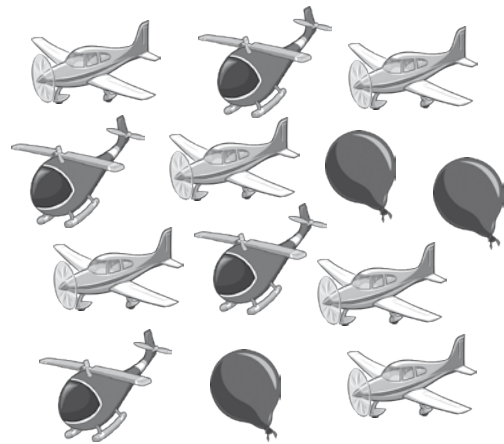| **ACMSP069** Data representation and interpretation • Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|
|  |  |  |  |  |

**1** Write these numbers in ascending order of size.

   **a**   2456, 2546, 2406, 2654 _____

   **b**   1025, 1205, 1520, 1502 _____

   **c**   6000, 6600, 6060, 6006 _____

**2** Use < or >.

   **a**   456 _____ 465       **b**   3601 _____ 3600       **c**   7959 _____ 790

**3** Round these numbers to the nearest thousand.

   **a**   690 _____       **b**   1765 _____       **c**   3080 _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** Read these numbers. 378, 322, 356, 341, 395, 367

   Write the numbers that:

   **a** round to 300 _____

   **b** rounds to 400 _____

**5** Write the number 10 less than:

   **a**   345 _____       **b**   6790 _____       **c**   1008 _____

**6** Write the number 100 less than:

   **a**   2480 _____       **b**   3508 _____       **c**   798 _____

**7** Write the number 1000 more than:

   **a**   3579 _____       **b**   2006 _____       **c**   4057 _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**8** Write the value of the 9 in:

   **a**   9046 _____       **b**   8976 _____       **c**   3009 _____

**9** In the number 4600, how many:

   **a**    hundreds? _____         **b**    tens? _____

**Self Assessment** ☺ ☺ ☺

| **ACMNA052** Number and place value • Recognise, model represent and order numbers to at least 10 000. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1** Complete these rows of multiples:

   **a** of 7 –   7   14   21   _____   _____   _____   _____   _____   _____

   **b** of 8 –   8   16   _____   _____   _____   _____   _____   _____   72

   **c** of 9 –   9   18   _____   _____   45   _____   _____   _____   _____

**2**

| a | b | c | d | e | f |
|---|---|---|---|---|---|
| 8 | 5 | 8 | 9 | 7 | 10 |
| × 4 | × 9 | × 6 | × 0 | × 7 | × 3 |
| ____ | ____ | ____ | ____ | ____ | ____ |

**3** Match by colouring.

| | | | | |
|---|---|---|---|---|
| **a** | 4 groups of 6 | 9 × 5 | 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 | 24 |
| **b** | 7 lots of 8 | 3 × 7 | 9 + 9 + 9 + 9 + 9 + 9 | 54 |
| **c** | 9 rows of 5 | 8 × 4 | 6 + 6 + 6 + 6 | 21 |
| **d** | 3 groups of 7 | 4 × 6 | 8 + 8 + 8 + 8 + 8 + 8 + 8 | 56 |
| **e** | 6 groups of 9 | 6 × 9 | 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 | 32 |
| **f** | 8 lots of 4 | 7 × 8 | 7 + 7 + 7 | 45 |

**4** **a** Bananas are in bunches of 7.
How many bananas in 5 bunches?

    _____ × _____ = _____ bananas

  **b** There are 3 children in each group.
How many children in 8 groups?

    _____ × _____ = _____ children

**5** Write a question.

_____

_____
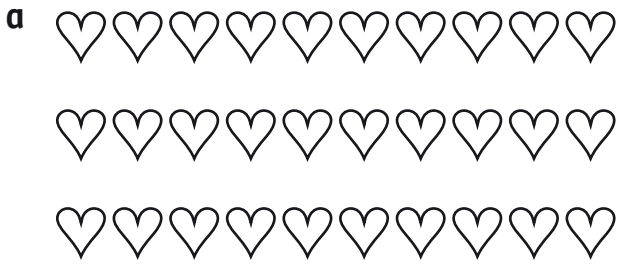
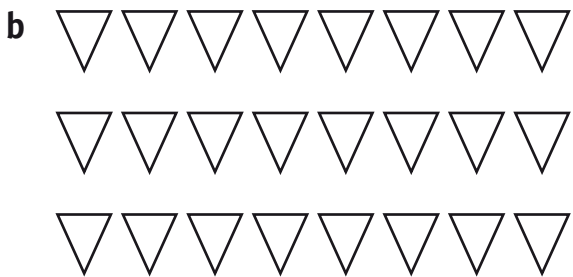_____ × _____ = _____          Answer   36 spots

**Self Assessment** ☺ ☺ ☺

| ACMNA057 Number and place value • Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies. | Score | Basic | Sound | High |
|---|---|---|---|---|

**6** Write as many multiplication facts as you can for these diagrams.

a $\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit$
$\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit$
$\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit\heartsuit$

_____
_____
_____
_____

b $\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown$
$\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown$
$\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown\triangledown$

_____
_____
_____
_____

**7** Find the product of:

a 7 and 0. _____    b 2 and 8. _____    c 4 and 10. _____    d 5 and 9. _____

e 3 and 6. _____    f 6 and 5. _____    g 7 and 9. _____    h 1 and 3. _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**8** Farmer Jim has 3 yards with 8 chickens in each and 5 yards with 4 geese in each.

True/false. Farmer Jim has more geese than chickens. _____

**9** I counted 8 windows on each floor of the new 6 storey CSI building and 6 windows on each floor of the 3 storey JJ building.

How many windows altogether? _____

**10** Mr Glinn pays $4 in tolls to cross the bridge and $5 in tolls to drive on the freeway.

How much does he pay in tolls, one way, in a 5 day working week? _____

**Self Assessment** ☺ ☺ ☺

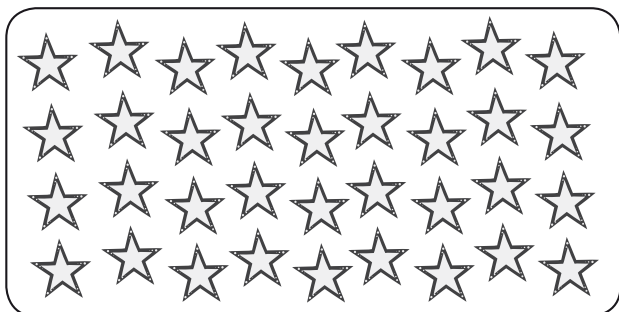| ACMNA056 Number and place value • Recall multiplication facts of two, three, five and ten and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

Name

**1** If one sweet costs 7c how many could you buy for:

**a** 49c? \_\_\_\_\_      **b** 14c? \_\_\_\_\_      **c** 28c? \_\_\_\_\_      **d** 63c? \_\_\_\_\_      **e** 35c? \_\_\_\_\_

**2** Drinks cost $2. How many could you buy for:

**a** $20? \_\_\_\_\_      **b** $8? \_\_\_\_\_      **c** $18? \_\_\_\_\_      **d** $6? \_\_\_\_\_      **e** $14? \_\_\_\_\_

**3** Use these stars to help you divide.

**a** $36 \div 4 =$ \_\_\_\_\_

**b** $36 \div 6 =$ \_\_\_\_\_

**c** $36 \div 9 =$ \_\_\_\_\_

**d** $36 \div 1 =$ \_\_\_\_\_

**e** $36 \div 2 =$ \_\_\_\_\_

**4** Complete.

**a** $6 \times 9 =$ \_\_\_\_\_      **b** $4 \times 7 =$ \_\_\_\_\_      **c** $9 \times 3 =$ \_\_\_\_\_      **d** $7 \times 6 =$ \_\_\_\_\_

     $54 \div 6 =$ \_\_\_\_\_        $28 \div 4 =$ \_\_\_\_\_        $27 \div 3 =$ \_\_\_\_\_        $42 \div 7 =$ \_\_\_\_\_

     $54 \div 9 =$ \_\_\_\_\_        $28 \div 7 =$ \_\_\_\_\_        $27 \div 9 =$ \_\_\_\_\_        $42 \div 6 =$ \_\_\_\_\_

**5 a** $6 \div 6 =$ \_\_\_\_\_      **b** $45 \div 5 =$ \_\_\_\_\_      **c** $63 \div 9 =$ \_\_\_\_\_      **d** $64 \div 8 =$ \_\_\_\_\_

   **e** $16 \div 4 =$ \_\_\_\_\_      **f** $56 \div 8 =$ \_\_\_\_\_      **g** $32 \div 4 =$ \_\_\_\_\_      **h** $25 \div 5 =$ \_\_\_\_\_

**6** Use these keys to help.

How many keys each if they are shared equality between:

**a** 5 children \_\_\_\_\_

**b** 4 children \_\_\_\_\_

**b** 10 children \_\_\_\_\_

**7 a** $16 \div 4 =$ \_\_\_\_\_      **b** $21 \div 3 =$ \_\_\_\_\_      **c** $25 \div 5 =$ \_\_\_\_\_

   **d** $32 \div 8 =$ \_\_\_\_\_      **e** $48 \div 6 =$ \_\_\_\_\_      **f** $35 \div 5 =$ \_\_\_\_\_

**Self Assessment** ☺ ☺ ☺

| ACMNA056 Number and place value • Recall multiplication facts of two, three, five and ten and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1** Complete equivalent fractions.

a $\frac{1}{2} = \frac{\boxed{\phantom{0}}}{8}$

b $\frac{3}{4} = \frac{\boxed{\phantom{0}}}{8}$

c $1 = \frac{\boxed{\phantom{0}}}{8}$

d $\frac{1}{5} = \frac{\boxed{\phantom{0}}}{10}$

e $\frac{8}{10} = \frac{\boxed{\phantom{0}}}{5}$

f $\frac{\boxed{\phantom{0}}}{3} = \frac{4}{6}$

**2** How much more to make 1?

a $\frac{1}{5}$ _____

b $\frac{1}{3}$ _____

c $\frac{7}{10}$ _____

**3** Place these fractions in order on the number line. $\frac{1}{5}, \frac{1}{2}, \frac{7}{10}, \frac{3}{5}, \frac{1}{10},$



0                                                                    1

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** True or false?

a $\frac{1}{2} = \frac{6}{10}$ _____

b $\frac{2}{5} = \frac{4}{10}$ _____

c $\frac{1}{4} = \frac{2}{8}$ _____

d $\frac{1}{2} > \frac{3}{5}$ _____

e $\frac{3}{4} < \frac{3}{8}$ _____

f $\frac{7}{10} > 1$ _____

**5** Colour the correct fraction:

a $\frac{1}{2}$

b $\frac{1}{3}$

c $\frac{1}{4}$



★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**6** True or false?

a $\frac{1}{2} < \frac{4}{10}$ _____

b $\frac{3}{10} = \frac{2}{5}$ _____

c $\frac{3}{5} = \frac{6}{10}$ _____

**7** Complete these diagrams to show that:

a $\frac{2}{3} < \frac{5}{6}$

b $\frac{9}{10} > \frac{3}{4}$



**Self Assessment** ☺ ☺ ☺

| ACMNA058 Fractions and decimals • Model and represent unit fractions including $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}, \frac{1}{5}$ and their multiples to a complete whole. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**1** Measure these lines in centimetres.

A

B

C

D

A = _____     B = _____     C = _____     D = _____

**2** Measure these lines in millimetres.

A

B

C

D
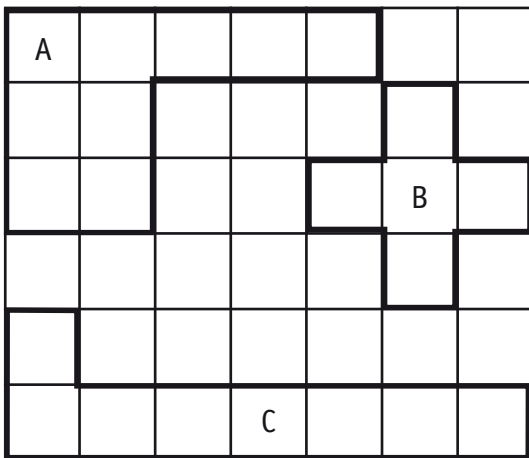
A = _____     B = _____     C = _____     D = _____

**3** Write the area of each shape in squares.
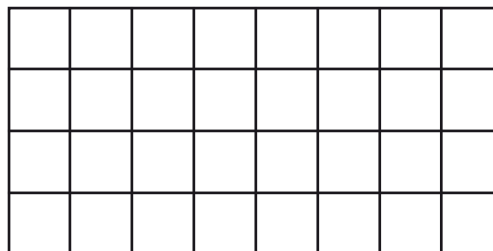
A

B

C

Area A = _____

Area B = _____

Area C = _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** Place these measurements in order from shortest to longest.

**a** 5 cm, 45 mm, 4 cm, 52 mm _____

**b** 2 m, 220 cm, 1 m 80 cm, 2 m 15 cm _____

**5** Handy Harry is tiling his laundry with large tiles. How many tiles cover the whole floor? _____
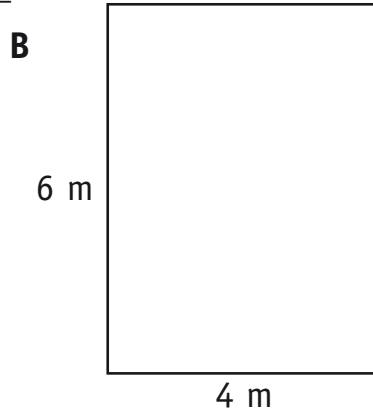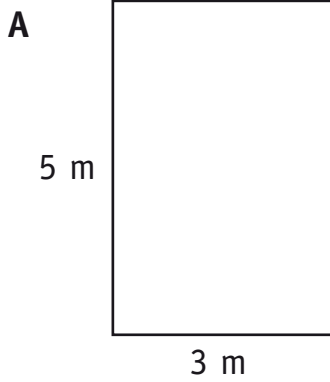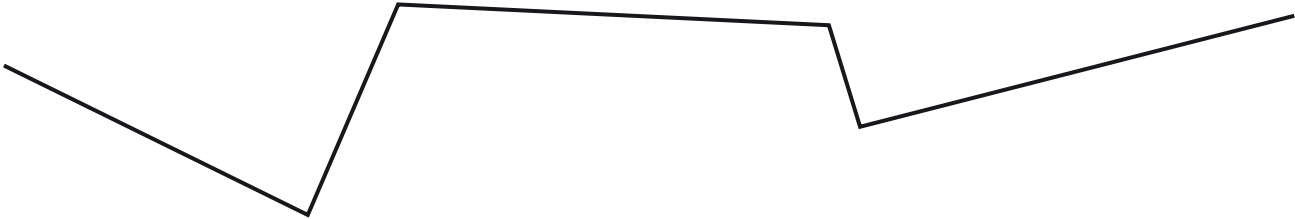
**Self Assessment** 😊 😊 😊

| ACMMG061 Using units of measurement • Measure, order and compare objects using familiar metric units of length, mass and capacity. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

**6** Harry has bought another 24 tiles. Which one of these spaces will he tile with those tiles? _____

**A**

5 m

3 m

**B**

6 m

4 m

**C**

4 m

4 m
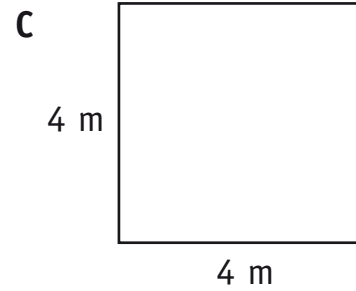
**7** Find the section of these lines that is 4 cm 5 mm long. Mark it with a cross.

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**8 a** On this squared paper, draw a 4 sided shape that covers 30 cm². 

**b** Measure the distance around the shape. _____

**Self Assessment** ☺ ☺ ☺

# Number Patterns

**1** Find the rule for each pattern and write the rule for these number machines.

| In | Out | Rule |
|---|---|---|
| **a** 6 | 9, 12, 15 | _____ |
| **b** 8 | 12, 16, 20 | _____ |
| **c** 29 | 20, 11, 2 | _____ |
| **d** 11 | 21, 31, 41 | _____ |
| **e** 13 | 11, 9, 7 | _____ |

**2** True (T) or false (F)?

**a** $7 \times 3 = 3 \times 7$ ____     **b** $9 + 6 = 6 + 9$ ____     **c** $8 \div 4 = 4 \div 8$ ____

**d** $7 \times 2 = 7 + 2$ ____     **e** $11 - 3 = 3 - 11 =$ ____     **f** $12 \times 11 = 11 \times 12$ ____

**g** $3 + 7 = 3 \times 7$ ____     **h** $5 + 8 = 8 + 5$ ____     **i** $20 - 10 = 20 \div 10$ ____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** True (T) or false (F)?

**a** Add an odd number to an odd number and the answer is even. _____

Example: _____

**b** Add an odd number to an even number and the answer is even. _____

Example: _____

**c** Take an even number from an even number and the answer is even. _____

Example: _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** What will the 10th term be in each pattern?

**a** 3, 7, 11, 15 _____     **b** 5, 15, 25, 35 _____

**c** 1, 2, 4, 7, 11 _____     **d** 85, 76, 67, 58 _____

**5** This is a pattern made with sticks.

◇   ◇◇   ◇◇◇     _____

**a** Draw the next term.

**b** Complete the table.

| Number of shapes | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Number of sticks | 4 | | | | | |

**Self Assessment** ☺ ☺ ☺

| ACMNA060 Patterns and algebra • Describe, continue, and create number patterns. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Angles

**1** Colour the right angles blue, the acute angles green and the obtuse angles brown.

**a**

**b**

**c**

**d**

**e**

**f**
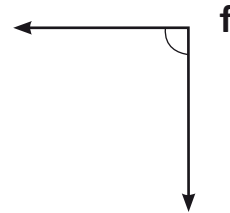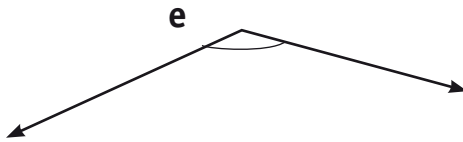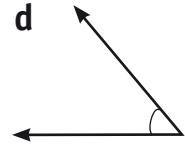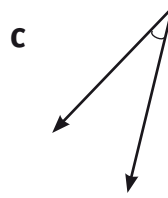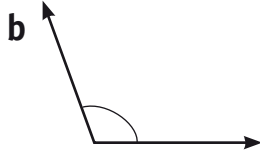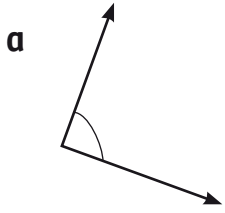
**2** Draw:

| a right angle. | an acute angle. | an obtuse angle. |
|----------------|-----------------|------------------|
|                |                 |                  |

**3 a** Name 2 places where we see right angles.

_____   _____

**b** Name 2 places where we see acute angles.

_____   _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** Explain how an angle is formed.
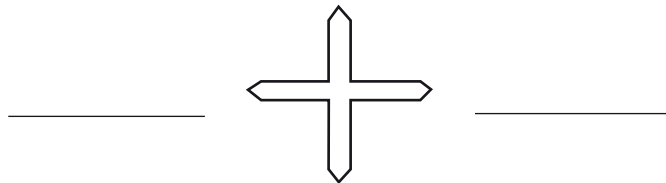
_____

_____

_____

**Self Assessment** ☺ ☺ ☺

| ACMMG064 Geometric reasoning • Identify angles as measures of turn and compare angle sizes in everyday situations. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

Name

**1** Write the compass points.

N_____

_____ _____

_____

**2** Start at *. Follow the directions to draw the path.

**a** 1 right      **b** 1 up       **c** 4 right

**d** 2 dow**n**    **e** 1 right    **f** 3 down

**g** 5 left      **h** 2 dow**n**   **i** 5 right

What number have you made? _____

**3**

|   | A | B | C | D |
|---|---|---|---|---|
| 3 | bat | elephant |   | cat |
| 2 | dog |   | bear | giraffe |
| 1 |   | bull |   | camel |

What is at:

**a** D3? _____

**b** A2? _____

**c** B1? _____

**d** C2? _____

Where is:

**e** the camel? _____      **f** the bat? _____

**g** Name the empty squares. _____  _____  _____  _____

**h** Write two questions about the grid.
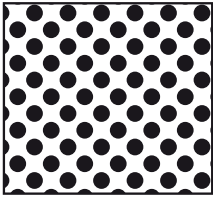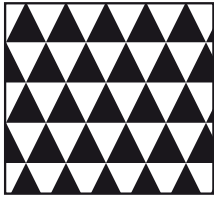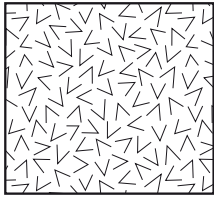
● _____

● _____

**Self Assessment** ☺ ☺ ☺

| Score | Basic | Sound | High |
|---|---|---|---|
|   |   |   |   |

**1**

Starting at ● draw 5 different ways to pass the three blocks and get back to ●.
Use a different colour for each path.
Use an arrow to show the direction of your path.

eg ——————→ ———— or ————— ←————

**2** Sam had these shorts and T-shirts.

| Shorts | T-shirts |
|--------|----------|
| Blue | Red |
| Green | White |
| White | Black |
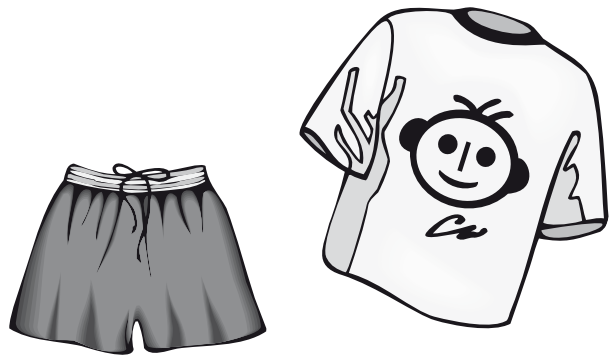
List all the combinations Sam could wear.

| Shorts | T-shirts |
|--------|----------|
| | |

| Shorts | T-shirts |
|--------|----------|
| | |

**3** Choose one term to describe each event.     impossible, certain, likely, unlikely

**a**  You will see a rainbow today.     _____

**b**  You will play with friends.     _____

**c**  You will walk 100 km before dinner.     _____

**d**  You will drink water today.     _____

**Self Assessment** ☺ ☺ ☺

| ACMSP067 Chance • Conduct chance experiments, identify and describe possible outcomes and recognise variation in results. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

Name

## Read, Plan, Work, Check

**1** 25 children met after school to watch the play. 17 were girls. How many were boys?

What? _____Number of boys_____

How? _____

Answer _____

**2** How many days in 6 weeks?

What? _____

How? _____

Answer _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** We had 28 friends to make 4 teams. How many friends were in each team?

What? _____

How? _____

Answer _____

**4** My website received 23 hits on Saturday, 15 on Sunday and 20 on Monday.

How many hits did it get in three days?

What? _____

How? _____

Answer _____

WWW.

## Self Assessment ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition and subtraction facts. ACMNA056 Number and place value • Recall multiplication and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

## Read, Plan, Work, Check

**5** Dad drives 28 kilometres but we are still 17 kilometres from the end of our trip. How many kilometres is our trip?

What? _____

How? _____

Answer _____

⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐⭐

**6** Grandi, Gramps, Uncle Gogo and Aunty Vi each picked 8 cases of oranges from their orchard. How many cases of oranges did they pick altogether?

What? _____

How? _____

Answer _____

**7** Five donkeys share the load of 35 parcels. How many parcels will each donkey have to carry?

What? _____

How? _____

Answer _____

**8** There are 16 boys going to soccer and 4 cars to carry them. How many will go in each car?

What? _____

How? _____

Answer _____

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition and subtraction facts. ACMNA056 Number and place value • Recall multiplication and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Problem Solving

## Draw a diagram

**1** **Draw to show:**

18 − 11 = _____

21 − 15 = _____

**2** **Draw to show:**

3 tanks with 5 fish in each

4 cups with 4 pencils in each

**3** **Use the number line to show:**

**a** 27 + 12 = _____    0    10    20    30    40

**b** 17 + 16 = _____    0    10    20    30    40

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**4** **Draw to show:**

Mrs Bling has 32 stickers for the winning team and each child gets 4 stickers.

How many children were in the winning team? _____

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition and subtraction facts.<br>ACMNA056 Number and place value • Recall multiplication and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Problem Solving

## Draw a diagram

**5** **Draw to show:**

> 4 bags with 3 bottles in each and 2 bags with 4 bottles in each.
>
> How many bottles altogether? _____

**6** Vin has 20 cards altogether. Half of them are in his school bag and his mother has 3 in her bag. He is putting the rest in a case.
>
> How many cards will he put in the case? _____

**7** **Use the number line to show:**

Didi has 50 minutes to finish her test. She has been working for 27 minutes.

How much longer does she have to finish her test? _____

```
0                                                    50
←————————————————————————————————————————————————→
```

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**8** The bus has 16 passengers, picks up 8 but drops 9. It then picks up 15 and drops 3.

How many people are on the bus now? _____

```
0                                                    50
←————————————————————————————————————————————————→
```

**9** **Draw and colour to show:**

> 34 olives. Half are green, 12 are black and I eat all the rest.
>
> How many did I eat? _____

**10** **Draw:**

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition and subtraction facts.<br>ACMNA056 Number and place value • Recall multiplication and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

## Trial and error

**1**  I throw 3 dice and get a total of 14. What could be on the dice? _____
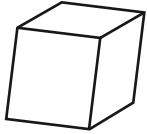
**2**  Wally has 32 worms in three worm farms. How many could be in each worm farm? _____

| A | B | C |
|---|---|---|
|   |   |   |

**3**  Joey spends $60 on footie tickets. An 'A' ticket costs twice as much as a 'B' ticket and he buys one of each.

How much is each ticket?

Answer: A ticket _____ B ticket _____

**4**  Jass buys chips and a drink for $9. The chips cost $1 less than the drink.

How much did they each cost?

Answer: chips _____ drink _____

**5**  There are 80 children in the Learn to Surf class, 20 more boys than girls.

How many boys are there?

Answer: _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**Self Assessment**  ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition and subtraction facts. ACMNA056 Number and place value • Recall multiplication and related division facts. | Score | Basic | Sound | High |
|---|---|---|---|---|
|   |   |   |   |   |

**6** In a new game that the Year 3 children invented, goals are 4 points, tries are 5 points and tips are 1 point. The Blasters scored 32 points, scoring more goals than anything else.

How many of each did they score?

Answer: goals _____ tries _____ tips _____

**7** Raising money for the 'Save our Bees' Charity, Year 3 raised $160 altogether. 3D raised $30 more than 3G, who raised $10 less than 3K.

How much did each class raise?

Answer: 3D _____ 3G _____ 3K _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**8** Jerry's Dad is 40 years older than Jerry and their total age is 50.

How old are they?

Answer: Dad _____ Jerry _____

**9** Grandpa makes wooden toys with wheels.  He makes tricycles (3 wheels), bicycles (2 wheels) and billy-carts (4 wheels).  He has 40 wheels.

How many of each can he make?

Answer: tricycles _____ bicycles _____ billy-carts _____

**10** Place the numbers 1 – 6 along the sides of this triangle so that the total along each side is 12.
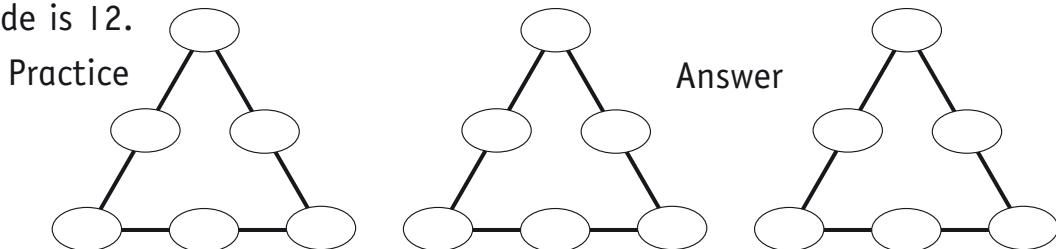
Practice

Answer

**Self Assessment** ☺ ☺ ☺

| ACMNA055 Number and place value • Recall addition and subtraction facts.<br>ACMNA056 Number and place value • Recall multiplication and related division facts. | Score | Basic | Sound | High |
| --- | --- | --- | --- | --- |
| | | | | |

# Problem Solving

Name

## Look for Patterns

**1** When Kelly has used 5 ♥ how many ◇ will she have used in her necklace? _____

**2** Following this pattern, how many matches does Flip need to make 8 diamonds? _____
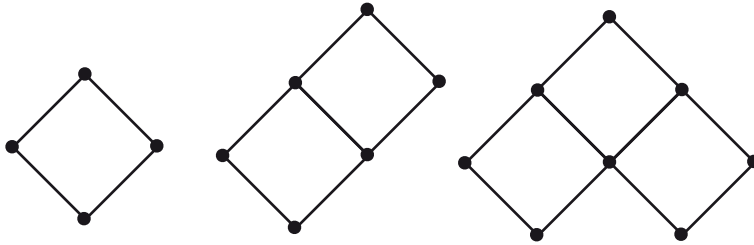
**3** This pattern is turning. Draw the next three terms in the pattern.
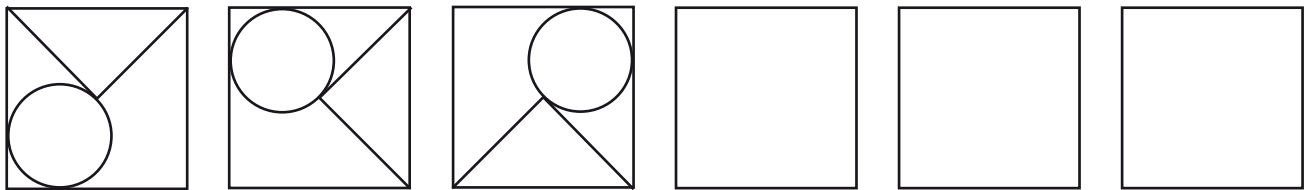
**4** These are the phone numbers of a business. 9906 6099, 9906 4099, 9906 8099. They form a pattern. Circle which of these numbers will also belong to this business?

    **a** 9920  2099      **b** 9906  5099      **c** 9930  3039      **d** 9940  0449

**5** Mimi wants to get 5 stickers every day for doing her chores for 5 days, and her brother wants only 1 sticker on the first day, doubling every day until day 5.

Who will get the most stickers?

Answer: _____

**Self Assessment** ☺ ☺ ☺

| ACMNA060 Patterns and algebra • Describe, continue, and create number patterns resulting from performing addition or subtraction. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |

# Problem Solving

## Work backwards

**1** How far do each of Nona's grandchildren live from her home?

Greta is 4 km further than Bren.
Seb is 6 km from Nona's.

Bren is 5 km closer than Yani.
Yani is 2 km further away than Seb.

Seb _____     Yani _____     Bren _____     Greta _____

**2** When Nona gives her grandchildren treats, she uses their ages to decide how much they get. Greta gets 1 less than Seb, who gets 3 less than Yani. Yani gets 6, which is 2 more than Bren. How many treats do they get?

| Yani | Bren | Seb | Greta |
|------|------|-----|-------|
| _____ | _____ | _____ | _____ |

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**3** Who was the last person to borrow *Who Sank the Boat?* from the library?

| **Name** | **Date borrowed** | |
|----------|-------------------|---|
| Cherri borrowed it 3 days before Arnie | _____ | _____ |
| Stefan took it 5 days after Cherri | _____ | _____ |
| Brendan got it 6 days after Stefan | _____ | _____ |
| Will borrowed it 5 days after Arnie | _____ | _____ |
| Arnie borrowed it on the 5th August | _____ | _____ |

**4** In the long jump at the carnival, Hildy jumped 10 cm less than Pete. Freddy jumped 30 cm more than Gill. Gill jumped 10 cm less than Jodi. Jodi jumped 20 cm less than Pete, who jumped 3 metres 45 cm.

Who tied for first in the long jump? _____

★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★

**5** What is the mystery number?

I am more than 3000. My ones digit is one more than my thousands digit. I am an even number.
My tens digit is twice my thousands digit.
My hundreds digit, 5 is one less than the tens.

What am I? _____

**Self Assessment** ☺ ☺ ☺

| Score | Basic | Sound | High |
|-------|-------|-------|------|
|       |       |       |      |

# Problem Solving

## Use a table/make a list

**1** How many different cartoon animals can you make by splitting tops and bottoms of a cat, a rabbit and a piglet.

cat with                    rabbit with                    piglet with

_____          _____          _____

_____          _____          _____

Answer = _____ animals

**2** Joey, Mike, Didi and Bren are lining up for class. How many different ways can they stand in line?

Answer = _____

**3** When you toss three coins in the air, what are all the possible outcomes when they land? Do not repeat any outcomes, eg T, T, H is the same as T, H, T.

Answer = _____

**4** How many 9s are there when you write the numbers 1 to 100?

Answer = _____

**5** When you toss three dice, how many combinations that add to 10 can you throw? Don't repeat any combinations in different order: 1, 2 and 6 is the same as 1, 6 and 2.

Answer = _____

**Self Assessment** ☺ ☺ ☺

| ACMSP067 Chance • Conduct chance experiments, identify and describe possible outcomes and recognise variation in results. | Score | Basic | Sound | High |
|---|---|---|---|---|
| | | | | |