Prime and Composite Numbers

1 Is the number 91 a prime number? Explain how you worked out your answer.

_____

_____

2 Is the number 256 a prime number? Explain how you worked out your answer.

_____

_____

3 Draw two different factor trees for the number 636.

4 State the number 636 as a product of its prime factors.

_____

5 State the number 1124 as a product of its prime factors.

_____

Unit 1 **Powers and Square Numbers** (TRB pp. 16–19)
Number and place value Investigate index notation and represent whole numbers as products of powers of prime numbers (ACMNA149) **AC**

Investigate and use square roots of perfect square numbers (ACMNA150) **AC**

Square and Square Root

1 Find the square of each of the following numbers.

    a 3 _____   **b** 25 _____

    c 11 _____   **d** 80 _____

    e 8 _____   **f** 125 _____

    g 16 _____   **h** 112 _____

2 Explain how you found the answer to Question 1, part f.

_____

_____

3 Find the square root of each of the following numbers.

    a 16 _____   **b** 10000 _____

    c 36 _____   **d** 2500 _____

    e 81 _____   **f** 324 _____

    g 100 _____   **h** 5476 _____

4 Explain how you found the answer to Question 3, part g.

_____

_____

5 Explore the square root of $\frac{4}{25}$.

6 Find each of the following.

    a 15^2 _____   **b** 21^2 _____

    c 30^2 _____   **d** 17^2 _____

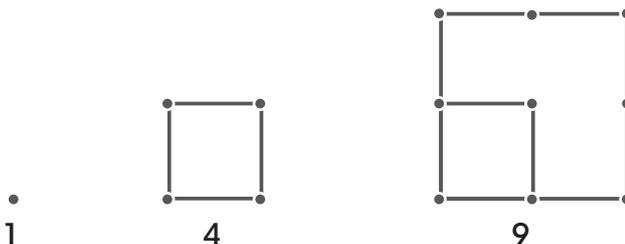   **e** $\sqrt{144}$ _____   **f** $\sqrt{256}$ _____

    g $\sqrt{9801}$ _____   **h** $\sqrt{64\,000}$ _____

7 Square numbers can be represented by:

1   4   9

On a sheet of paper, draw a representation of 8^2.

Unit 1   **Powers and Square Numbers** (TRB pp. 16–19)
Number and place value Investigate index notation and represent whole numbers as products of powers of prime numbers (ACMNA149) **AC**

Investigate and use square roots of perfect square numbers (ACMNA150) **AC**

Using Index Representation

1 State the value of each of the following.
The first one has been done for you.

a $3^2 = 9$

b $10^2 =$ _____

c $9^2 =$ _____

d $11^2 =$ _____

e $14^2 =$ _____

f $20^2 =$ _____

g $25^2 =$ _____

h $32^2 =$ _____

2 State the value of each of the following.

a $3^2 \times 2$ _____

b $4^2 \times 2^2$ _____

c $3^2 \times 5^2$ _____

d 10×6^2 _____

e $9^2 \times 1^2$ _____

f $4^2 \times 4^2$ _____

g $3^2 \times 2^2 \times 4$ _____

h $5^2 \times 2 \times 3^2$ _____

3 Express each of the following as prime factors using index representation.

a 16 _____

b 32 _____

c 81 _____

d 120 _____

e 1700 _____

f 2500 _____

g 324 _____

h 5476 _____

4 Explain how you found the answer to Question 3, part g.

_____

_____

5 **a** Draw a factor tree for 735.

b Express this as a product of its prime factors using index representation. _____

STUDENT ASSESSMENT

1 What is a prime number? Give two examples.

_____

_____

2 What is a composite number? Give two examples.

_____

_____

3 Draw a factor tree for 832.

4 Express 36 as a product of its prime factors.

5 Find each of the following.

a 8^2 _____   **b** 13^2 _____

c 22^2 _____   **d** 17^2 _____

e $\sqrt{961}$ _____   **f** $\sqrt{576}$ _____

g $\sqrt{361}$ _____   **h** $\sqrt{42\,025}$ _____

6 Find each of the following.

a $3^2 \times 2^2 =$ **b** $5^2 \times 2^2 =$

c $3^2 \times 1^2 =$ **d** $1^2 \times 4^2 \times 3 =$

Unit
1
Powers and Square Numbers (TRB pp. 16–19)
Number and place value Investigate index notation and represent whole numbers as products of powers of prime numbers (ACMNA149) **AC**

Investigate and use square roots of perfect square numbers (ACMNA150) **AC**

The Commutative Law

1   State the commutative law.

_____

_____

2   Find the missing number in the following equations.

a $2 + 6 = 6 +$ _____

b $11 + 19 = 19 +$ _____

c $42 + 56 = 56 +$ _____

d $81 + 92 = 92 +$ _____

e $52 +$ _____ $= 21 + 52$

f $83 +$ _____ $= 76 + 83$

g $105 +$ _____ $= 98 + 105$

h $189 +$ _____ $= 73 + 189$

3   Find the missing number in the following equations.

a $11 \times 6 = 6 \times$ _____

b $7 \times 19 = 19 \times$ _____

c $20 \times 56 = 56 \times$ _____

d $8 \times 92 = 92 \times$ _____

e $52 \times$ _____ $= 12 \times 52$

f $83 \times$ _____ $= 6 \times 83$

g $105 \times$ _____ $= 5 \times 105$

h $18 \times$ _____ $= 70 \times 18$

4   Find the value of each of the equations from Question 3.

a

b

c

d

e

f

g

h

The Associative Law

1 State the associative law.

_____

_____

2 Find the missing number in the following equations.

   a (2 + 8) + 10 = 2 + _____   **b** (11 + 18) + 20 = 11 + _____

   c (42 + 50) + 25 = 42 + _____   **d** (83 + 72) + 27 = 83 + _____

   e (52 + 36) + _____ = 52 + (36 + 42) **f** (85 + 19) + _____ = 85 + (19 + 57)

3 Find the missing number in the following equations.

   a (11 × 6) × 2 = 11 × _____   **b** (7 × 13) × 3 = 7 × _____

   c (20 × 6) × 4 = 20 × _____   **d** _____ × 52 = 3 × (12 × 52)

   e _____ × 6 = 6 × (8 × 6)   **f** _____ × 3 = 5 × (10 × 3)

4 Find the value of each of the equations from Question 3.

   a

   b

   c

   d

   e

   f

Unit
2
Place Value and Laws of Computation (TRB pp. 24–27)
Number and place value Apply the associative, commutative and distributive laws to aid mental and written computation
(ACMNA151) **AC**

The Distributive Law

1 Explain the distributive law. Include an example.

_____

_____

2 Expand the brackets and solve the following.

a 5 × (3 + 4) =   **b** 9 × (4 + 6) =

c 10 × (3 + 1) =   **d** 7 × (8 + 5) =

e 22 × (3 + 2) =   **f** 50 × (4 + 6) =

g 17 × (3 + 10) =   **h** 32 × (2 + 10) =

3 Express each of the following in the form of $a × (b + c)$ = , and solve. The first one is done for you.

a (4 × 5) + (4 × 7)   = 4 × (5 + 7)   **b** (7 × 3) + (7 × 11) =

                                     = 4 × 12

                                     = 48

c (6 × 5) + (6 × 8)   =   **d** (8 × 6) + (8 × 12) =

e (11 × 3) + (11 × 9) =   **f** (12 × 8) + (12 × 3) =

4 Draw a diagram to illustrate 4 × (5 + 3) =

DATE:

1 Find the missing number in the following equations.

a 7 + 9 = 9 + _____

b 11 + 25 = _____ + 11

c 81 + _____ = 100 + 81

d _____ + 35 = 35 + 74

e 8 × 6 = 6 × _____

f 11 × _____ = 12 × 11

g 19 × 20 = _____ × 19

h _____ × 36 = 36 × 42

2 Find the missing number in the following equations.

a (2 + 5) + 3 = 2 + (5 + _____)

b (6 + 3) + 7 = 6 + _____

c (81 + _____ = 81 + (52 + 3)

d (21 + 5) + _____ = 21 + (5 + 37)

e (12 × 5) × 3 = 12 × _____

f (8 × 6) × 21 = 8 × _____

g _____ × 3 = 19 × (2 × 3)

h _____ × 6 = 42 × (8 × 6)

3 Expand the brackets and solve the following.

a 6 × (8 + 3) =

b 7 × (2 + 5) =
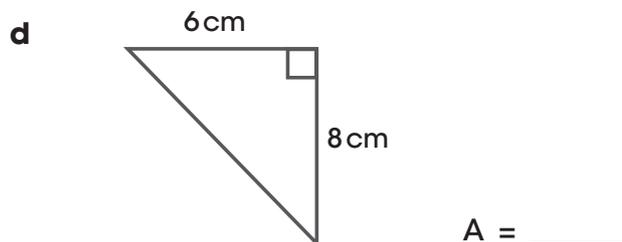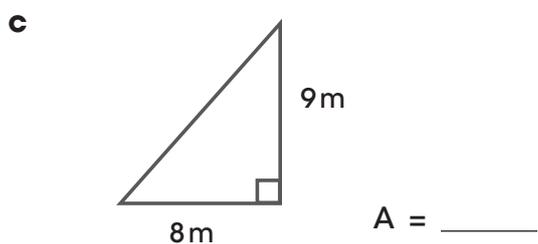
c 8 × (11 + 3) =

d 9 × (4 + 7) =

4 Draw a diagram of 2 × (3 × 5) to solve.
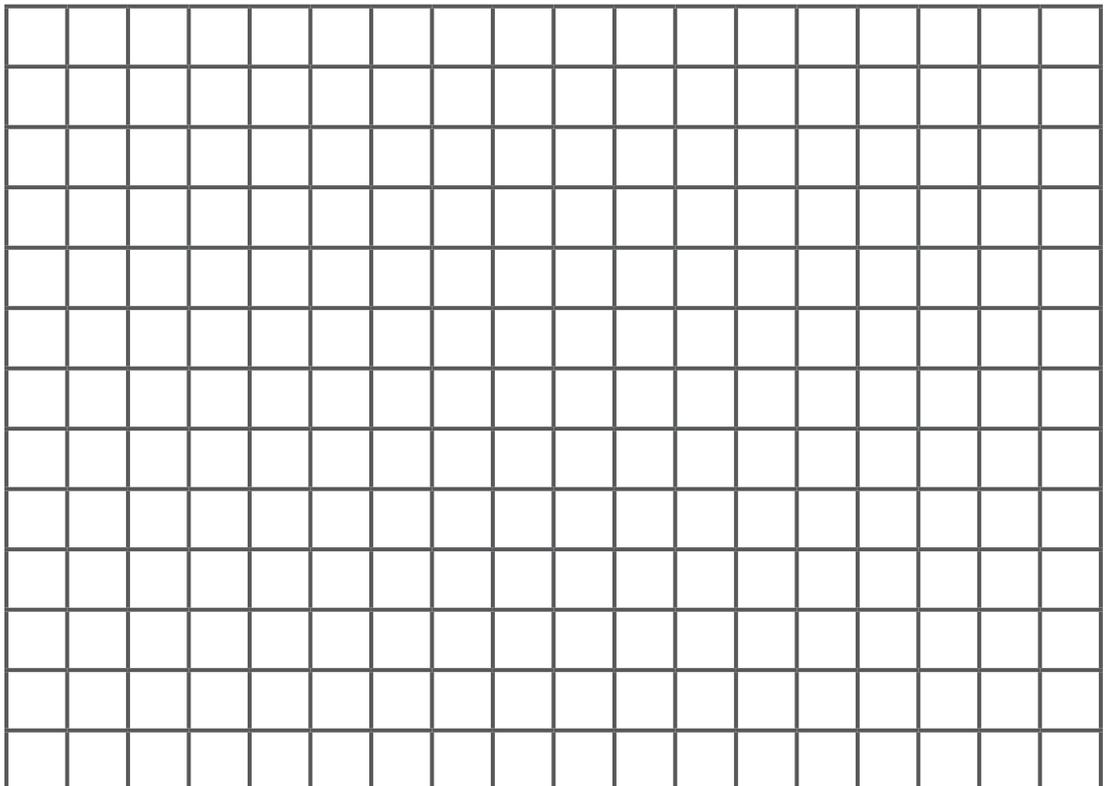
Areas

1 Find the area of each square.

a

5 mm

A = _____

b

9 cm

A = _____

c

7 m

A = _____

d

12 m

A = _____
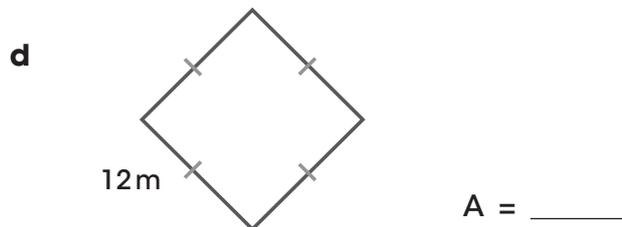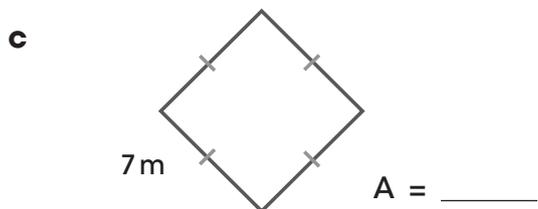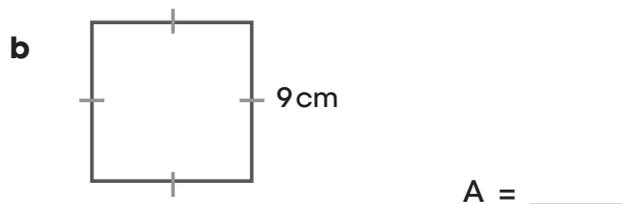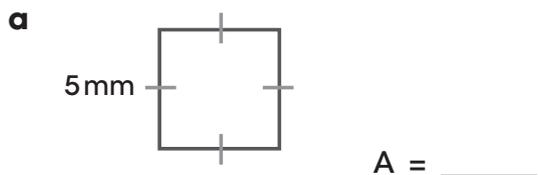
2 Find the area of each rectangle.

a

5 cm

3 cm

A = _____

b

12 m

9 m

A = _____

c

12 cm

6 cm

A = _____

d

8 mm

20 mm

A = _____
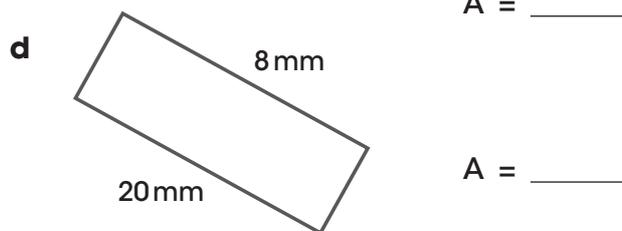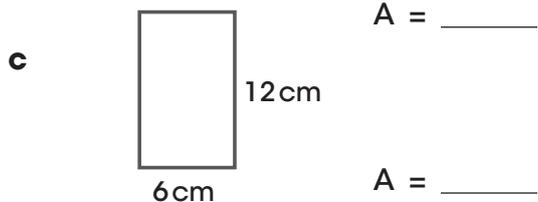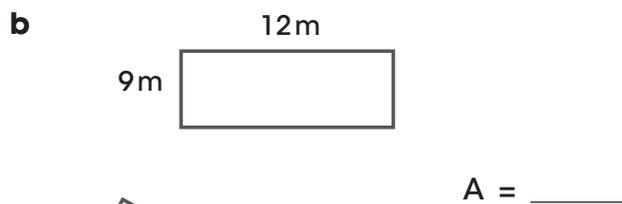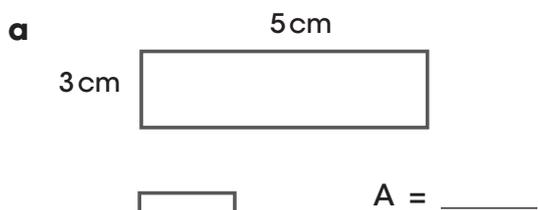
3 Find the area of each triangle.

a

5 cm

4 cm

A = _____

b

10 mm

8 mm

A = _____

c

9 m

8 m

A = _____

d

6 cm

8 cm

A = _____
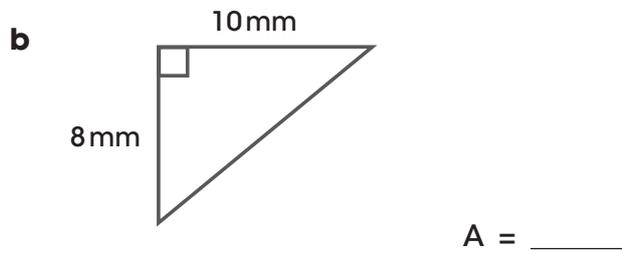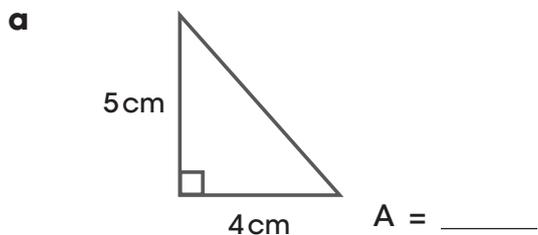
4 Find the area of each shape.

a

5 cm

10 cm

A = _____

b

6 m

12 m

A = _____
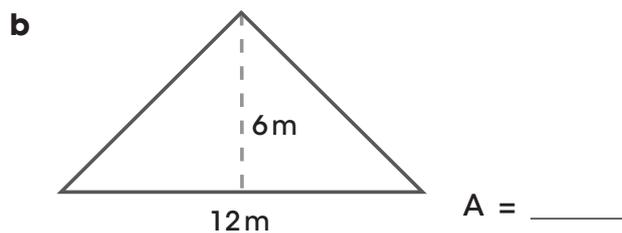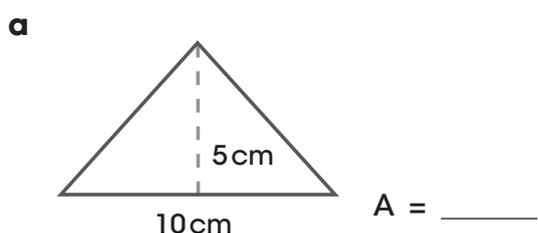
Finding the Area of Composite Shapes

1 Find the area of each of the composite shapes. Record your working. Write your answer on each of the shapes.

a

4 cm

A = _____

3 cm

7 cm

2 cm

b

6 cm

A = _____

6 cm

1 cm

2 cm   2 cm

c

6 cm

A = _____

6 cm

8 cm

2 cm

2 cm   2 cm

d

4 cm

5 cm

A = _____

7 cm

e

4 cm

A = _____

5 cm

8 cm

f

4 cm

A = _____

7 cm
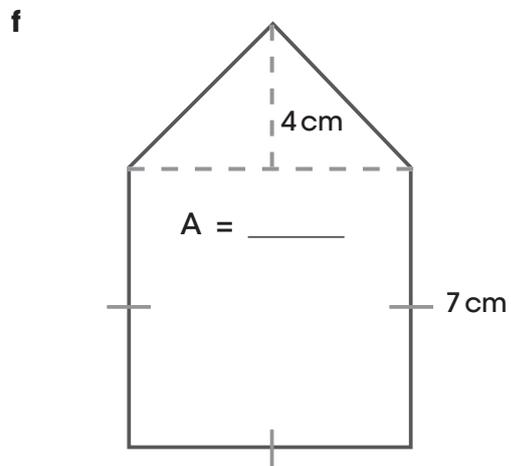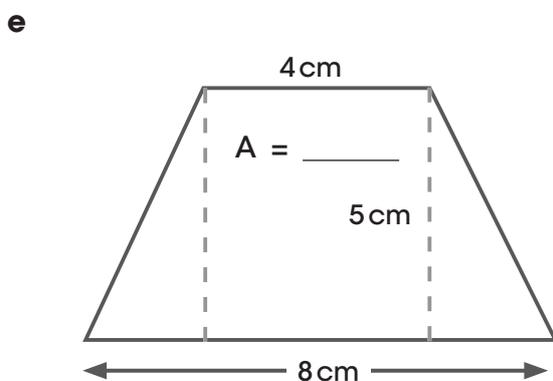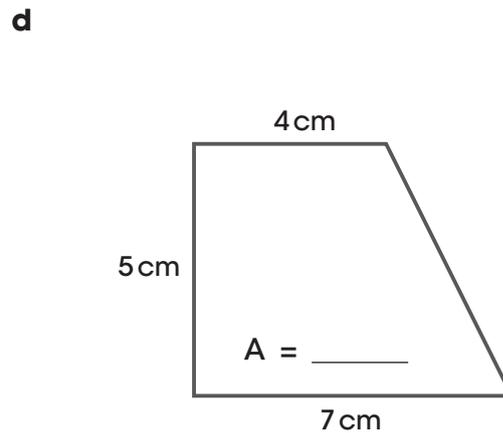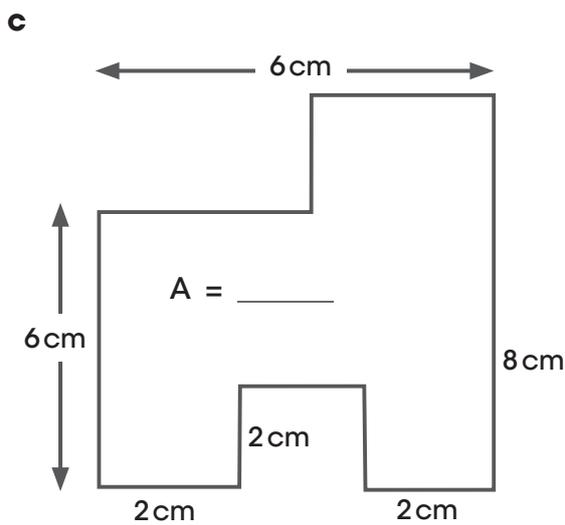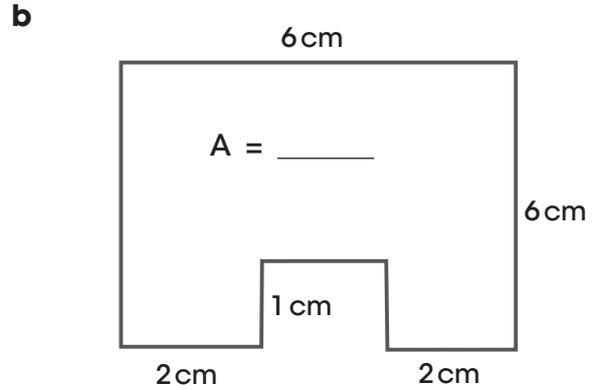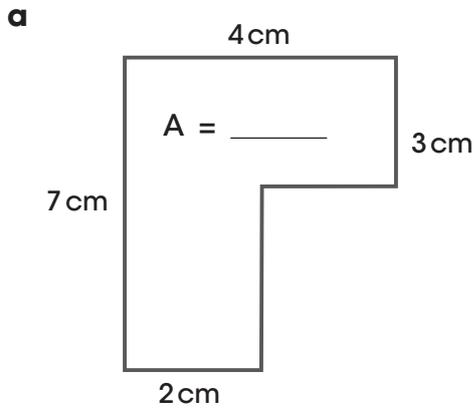
Volume of 3D Shapes

1 Find the volume of each of the 3D shapes.

Take care with units!

a

5 cm

4 cm

3 cm

V = _____

b

10 cm

2 cm

2 cm

V = _____

c

5 m

3 m

3 m

V = _____

d

4 m

4 m

6 m

V = _____

Try the extra tricky ones below!

e

5 cm

4 cm

2 cm

5 cm

2 cm

V = _____

f

5 mm

5 mm

5 mm

8 mm

V = _____

Unit **3** Measurement (Area and Volume) (TRB pp. 32–35)
Using units of measurement Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem solving (ACMMG159) **AC**

Calculate volumes of rectangular prisms (ACMMG160) **AC**

STUDENT ASSESSMENT
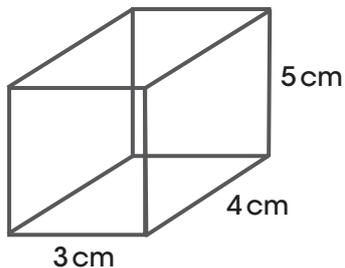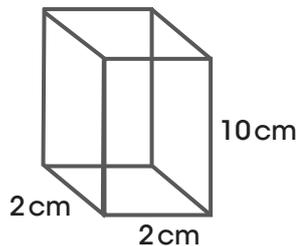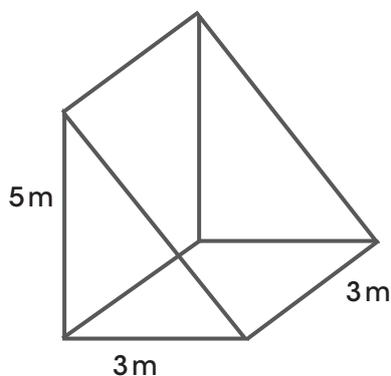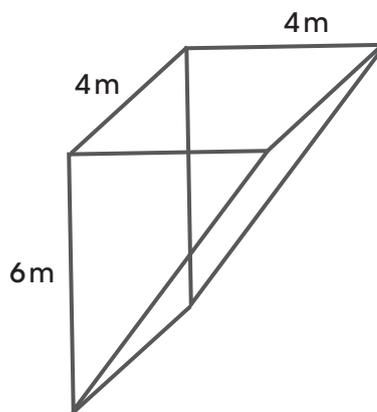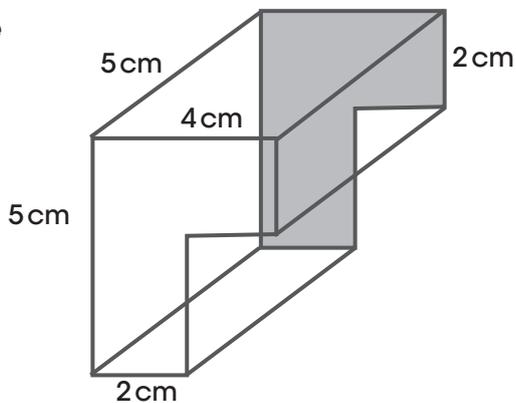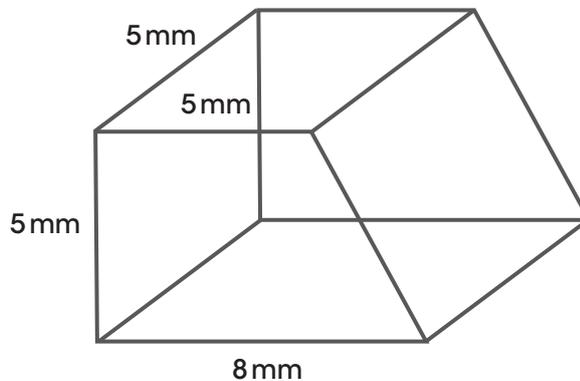
1 Describe how to find the area of each of the following shapes.
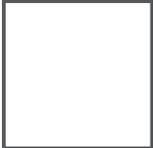
a	**b**	**c**
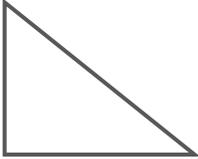
2 Find the area of the following shapes.

a

5 cm

5 cm

A = _____

9 cm

b

1 m

1 m

A = _____

4 m

3 m
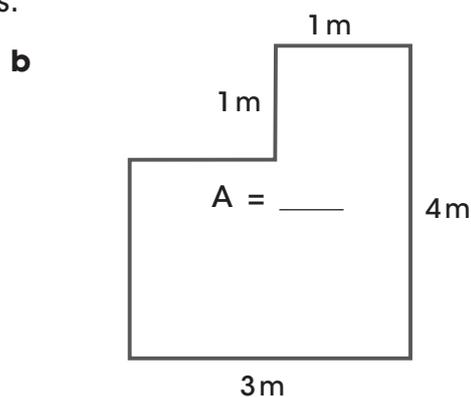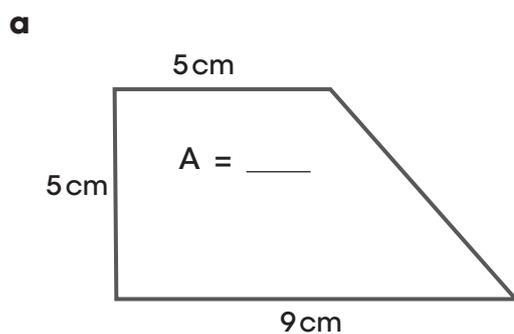
3 Find the volume of the following shapes.

a

2 cm

9 cm

4 cm

V = _____

b

3 m

7 m

5 m

V = _____

Unit

3

Measurement **(Area and Volume)** (TRB pp. 32–35)
Using units of measurement Calculate volumes of rectangular prisms (ACMMG160) **AC**
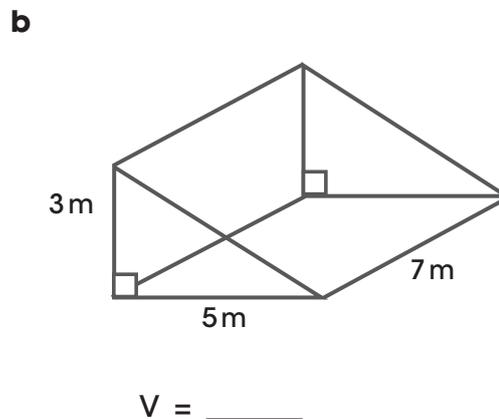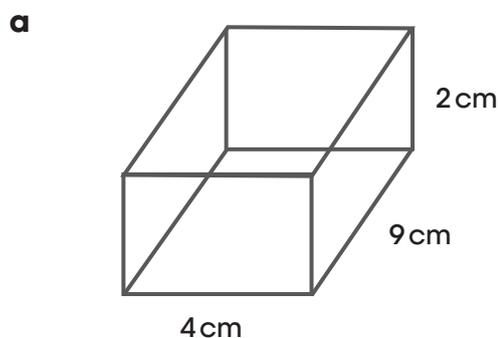
Comparing Fractions

1 Complete each of the following to find the equivalent fractions.

a $\dfrac{3}{5} = \dfrac{\square}{10}$

b $\dfrac{5}{8} = \dfrac{\square}{16}$

c $\dfrac{2}{3} = \dfrac{\square}{12}$

d $\dfrac{4}{\square} = \dfrac{1}{4}$

e $\dfrac{\square}{20} = \dfrac{7}{10}$

f $\dfrac{9}{\square} = \dfrac{3}{8}$

2 Write each of the following as a mixed number.

a $\dfrac{7}{5} =$

b $\dfrac{10}{3} =$

c $\dfrac{9}{4} =$

d $\dfrac{11}{2} =$

e $\dfrac{12}{7} =$

f $\dfrac{25}{8} =$

3 Write each of the following as an improper fraction.

a $1\dfrac{2}{3} =$

b $3\dfrac{4}{5} =$

c $1\dfrac{7}{10} =$

d $1\dfrac{5}{7} =$

e $4\dfrac{4}{5} =$

f $3\dfrac{3}{4} =$

4 Order each set of fractions from smallest to largest.

a $\dfrac{1}{4}$, $\dfrac{3}{4}$, $\dfrac{1}{2}$, 1 , $1\dfrac{3}{4}$, $1\dfrac{1}{4}$ _____

b $\dfrac{2}{5}$, $\dfrac{4}{5}$, $\dfrac{7}{5}$, $\dfrac{3}{5}$, $\dfrac{1}{5}$, $\dfrac{6}{5}$ _____

c $\dfrac{3}{10}$, $\dfrac{9}{10}$, $1\dfrac{3}{10}$, $\dfrac{1}{2}$, $1\dfrac{7}{10}$, $\dfrac{6}{10}$ _____

5 Order each set of fractions from smallest to largest.

a $\dfrac{2}{3}$, $\dfrac{1}{2}$, $\dfrac{3}{4}$, 1 , $\dfrac{1}{4}$ _____

b $\dfrac{4}{5}$, $\dfrac{1}{2}$, $\dfrac{7}{10}$, $\dfrac{1}{10}$, $\dfrac{1}{5}$ _____

c $\dfrac{2}{3}$, $\dfrac{4}{5}$, $\dfrac{1}{3}$, $\dfrac{1}{5}$, 3 , $\dfrac{2}{5}$ _____

d $\dfrac{1}{3}$, $\dfrac{1}{2}$, $\dfrac{1}{4}$, $\dfrac{2}{5}$, $\dfrac{2}{3}$, $\dfrac{3}{4}$ _____

Adding and Subtracting Fractions

1 Find the following.

a $\dfrac{3}{4} + \dfrac{1}{4} =$

b $\dfrac{3}{5} + \dfrac{1}{5} =$

c $\dfrac{5}{10} + \dfrac{4}{10} =$

d $\dfrac{2}{3} + \dfrac{2}{3} =$

e $\dfrac{3}{8} + \dfrac{7}{8} =$

f $\dfrac{5}{6} + \dfrac{3}{6} =$

2 Find the following.

a $\dfrac{7}{8} - \dfrac{1}{8} =$

b $\dfrac{9}{10} - \dfrac{4}{10} =$

c $1 - \dfrac{3}{4} =$

d $1\dfrac{1}{4} - \dfrac{3}{4} =$

e $2 - \dfrac{3}{5} =$

f $2\dfrac{2}{3} - \dfrac{5}{3} =$

3 Find the following.

a $\dfrac{3}{4} + \dfrac{3}{8} =$

b $\dfrac{2}{3} + \dfrac{5}{6} =$

c $\dfrac{1}{5} + \dfrac{3}{10} =$

d $\dfrac{7}{8} + \dfrac{1}{4} =$

e $\dfrac{4}{5} + \dfrac{1}{4} =$

f $\dfrac{2}{5} + \dfrac{2}{3} =$

4 Find the following.

a $2 - \dfrac{3}{4} =$

b $\dfrac{9}{10} - \dfrac{2}{5} =$

c $\dfrac{4}{5} - \dfrac{1}{2} =$

d $\dfrac{7}{8} - \dfrac{1}{4} =$

e $\dfrac{9}{4} - 1 =$

f $1\dfrac{1}{3} - \dfrac{3}{4} =$

5 Alex finds the sum of $\dfrac{3}{4}$ and $\dfrac{3}{10}$.

What is the total that Alex finds? _____

6 Sara finds the difference between $\dfrac{5}{6}$ and $\dfrac{3}{10}$.

What is the value that Sara finds? _____

Multiplying Fractions

1 Complete:

a $\dfrac{1}{4} \times \dfrac{3}{4} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$

b $\dfrac{2}{3} \times \dfrac{3}{5} = \dfrac{\square \times \square}{\square \times \square} = \dfrac{\square}{\square}$

2 Find:

a $\dfrac{1}{2}$ of 8 =

b $\dfrac{1}{4}$ of 12 =

c $\dfrac{1}{5}$ of 20 =

d $\dfrac{2}{3}$ of 18 =

e $\dfrac{3}{10}$ of 40 =

3 Find:

a $\dfrac{1}{2} \times \dfrac{3}{8} =$

b $\dfrac{1}{3} \times \dfrac{4}{5} =$

c $\dfrac{3}{10} \times \dfrac{1}{7} =$

d $\dfrac{4}{5} \times \dfrac{7}{8} =$

e $\dfrac{3}{4} \times \dfrac{4}{10} =$

f $\dfrac{2}{3} \times \dfrac{5}{8} =$

4 Liam has $\dfrac{3}{4}$ of a bucket of sand. If Liam divides the sand in half into two containers, how much sand will he have in each container?

5 Tara has 20 pieces of wood that are each $\dfrac{4}{5}$ of a metre. What is the total length of Tara's wood?

6 There are 30 containers of glue in the classroom. $\dfrac{5}{6}$ of the containers have been used. How many containers are yet to be used?

STUDENT ASSESSMENT

1 Find each of the following as mixed numbers or improper fractions.

a $\dfrac{4}{3}$ =　　　　　**b** $\dfrac{8}{5}$ =　　　　　**c** $\dfrac{10}{4}$ =　　　　　**d** $\dfrac{8}{2}$ =

e $3\dfrac{1}{5}$ =　　　　**f** $1\dfrac{4}{10}$ =　　　　**g** $2\dfrac{1}{3}$ =　　　　**h** $3\dfrac{3}{8}$ =

2 Find each of the following.

a $\dfrac{4}{10} + \dfrac{3}{10}$ =　　　　**b** $\dfrac{7}{8} + \dfrac{5}{8}$ =　　　　**c** $\dfrac{9}{10} - \dfrac{3}{10}$ =

d $1 - \dfrac{2}{3}$ =　　　　**e** $\dfrac{1}{5} + \dfrac{2}{4}$ =　　　　**f** $\dfrac{7}{8} - \dfrac{1}{3}$ =

3 Find each of the following.

a $\dfrac{2}{3} \times \dfrac{4}{5}$ =　　　　**b** $\dfrac{1}{10} \times \dfrac{3}{8}$ =　　　　**c** $\dfrac{3}{4} \times \dfrac{5}{9}$ =

4 In my school bag there are 3 drink bottles, each $\dfrac{3}{4}$ full of water. How much water do I have altogether?

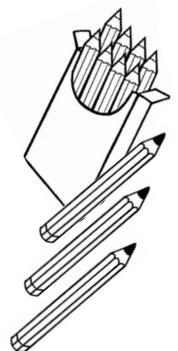**5** Zac has 2 packets of flour. He uses $\dfrac{7}{10}$ of a packet. How much flour does Zac have left?

6 At the party, $\dfrac{3}{4}$ of one pizza, $\dfrac{2}{3}$ of another pizza and $\dfrac{5}{6}$ of another pizza were eaten.

a How much pizza was eaten in total?

b How much pizza was left?

7 $\dfrac{2}{3}$ of 30 pencils were blunt. How many pencils were blunt?

8 Give three fractions that could add together to give $\dfrac{7}{8}$.

Unit

4

Comparing Fractions (TRB pp. 40–43) *Real numbers* Compare fractions using equivalence. Locate and represent positive and negative fractions and mixed numbers on a number line (ACMNA152) | Solve problems involving addition and subtraction of fractions, including those with unrelated denominators (ACMNA153) | Multiply and divide fractions and decimals using efficient written strategies and digital technologies (ACMNA154) | Express one quantity as a fraction of another, with and without the use of digital technologies (ACMNA155)
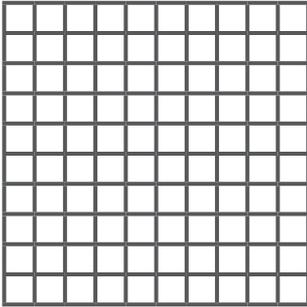
Decimals and Fractions

1 Represent each of the following on the decimal grid.

a 0.2

b one tenth
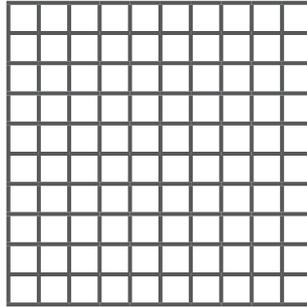
c 0.15
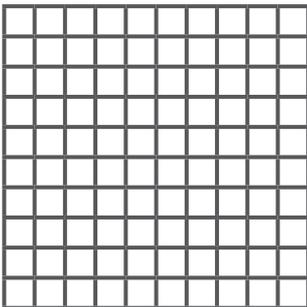
d sixty hundredths
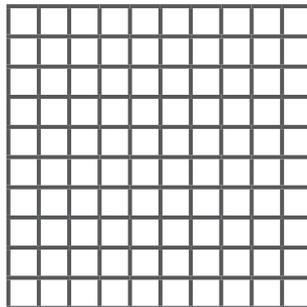
e 0.03
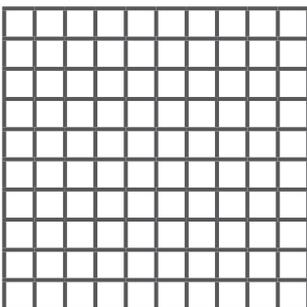
f twenty-nine hundredths
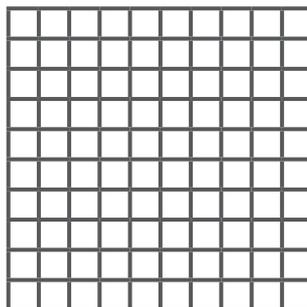
2 Write each of the following as a fraction.

a 0.9

b 0.01

c 0.70

d 1.31

e 2.05

f 0.65

3 Write each of the following as a decimal.

a $\frac{18}{100}$ _____

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

c $\frac{8}{100}$ _____

d $\frac{14}{100}$ _____

e $\frac{85}{10}$ _____

f $\frac{99}{100}$ _____

4 Write each of the following as a decimal and as a fraction.

a one hundredth _____

b nine hundredths _____

c forty tenths _____

d two hundred and sixteen hundredths _____

Fractions and Percentages

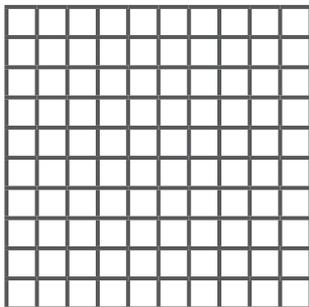**1** Represent each of the following on the decimal grid.

a 20%

b $\frac{33}{100}$
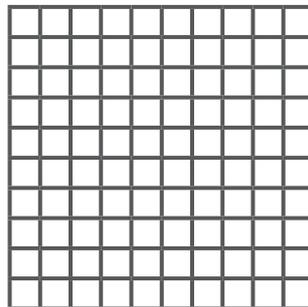
c 78%
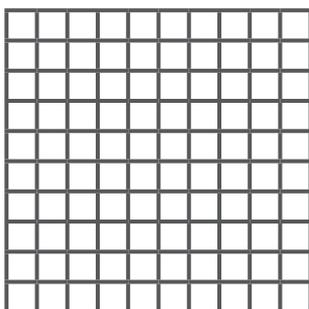
d $\frac{4}{5}$
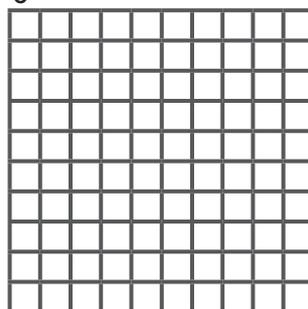
e 19%
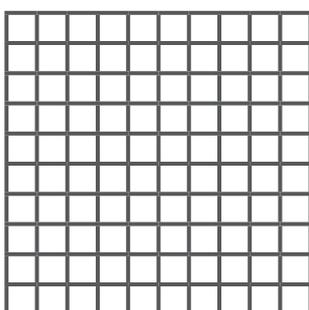
f $\frac{7}{10}$
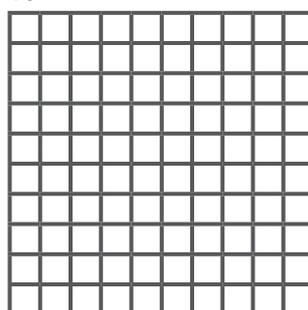
2 Write each of the following as a fraction.

a 90%

b 4%

c 70%

d 71%

e 125%

f 52%

3 Write each of the following as a percentage.

a $\frac{16}{100}$ _____

b $\frac{85}{10}$ _____

c $\frac{8}{100}$ _____

d $\frac{3}{50}$ _____

e $\frac{7}{25}$ _____

f $\frac{19}{20}$ _____

4 Write each of the following as a fraction and as a percentage.

a one hundredth _____

b seventy hundredths _____

c sixty tenths _____

d five fiftieths _____

Fractions, Decimals and Percentages

1 Complete each of the following.

	Fraction	Decimal	Percentage
a	$\frac{12}{100}$		
b	$\frac{25}{100}$		
c	$\frac{3}{10}$		
d	$\frac{4}{100}$		
e	$\frac{45}{10}$		
f	$\frac{3}{20}$		
g	$\frac{17}{25}$		
h	$\frac{34}{50}$		

2 Complete each of the following.

	Fraction	Decimal	Percentage
a		0.24	
b		0.73	
c		0.05	
d		0.2	
e		1.5	
f		2.44	

3 Complete each of the following.

	Fraction	Decimal	Percentage
a			16%
b			3%
c			77%
d			105%
e			30%
f			100%

4 Write each of the following as a fraction, decimal and percentage.

a three tenths _____

b eighty hundredths _____

c fourteen hundredths _____

d five fiftieths _____

e eighteen twentieths _____

f one and seven hundredths _____

1 Show $\frac{35}{100}$ on the hundredths grid.
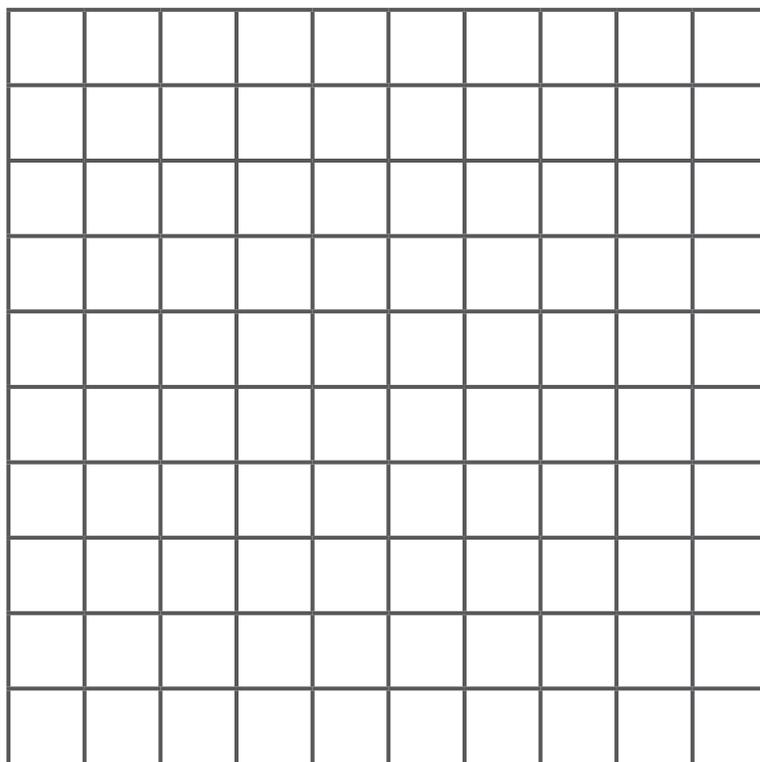
2 Write $\frac{35}{100}$ as a decimal. _____

3 Write $\frac{35}{100}$ as a percentage. _____

4 **a** Write 70% as a decimal and a fraction. _____

b Explain how you worked out the fraction for 70%.

_____

_____

5 **a** What is 80% of $40? _____

b Express 80% as a fraction and a decimal. _____

6 Ally has 900 flowers. She sells $\frac{4}{5}$ of the flowers.

How many flowers does she have left to sell?

Unit

5

Decimals, Fractions and Percentages (TRB pp. 48–51)
Real numbers Connect fractions, decimals and percentages and carry out simple conversions (ACMNA157) **AC**

Creating and Finding Missing Values

1 Write at least five equations related to each equation.

   a $4 + 11 = 15$ **b** $12 \times 10 = 120$

   c $45 \div 9 = 5$ **d** $18 - 11 = 7$

2 Create two related equations to the given equations that have missing values represented with ☐.

   a $13 + 6 = 19$ **b** $8 \times 7 = 56$

3 Create two related equations to the given equations that have missing values represented with a.

   a $15 - 8 = 7$ **b** $77 \div 7 = 11$

4 Find the value of a in each of the following equations.

   a $5 + a = 11$ **b** $12 - a = 7$

   c $4 \times a = 12$ **d** $20 \div a = 10$

Solving Problems

Solve each of the following problems by writing an equation and finding the missing value.

1 I have a number and add 15 to that number to find the answer of 26. What is the number?

2 I have a number and multiply it by 6 to find the answer of 30. What is the number?

3 I have a number and divide it by 10 to find the answer of 1. What is the number?

4 I have a number and subtract 26 from it to find the answer of 50. What is the number?

5 A farmer has some sheep. Each sheep has 4 legs. If there are 400 legs in total, how many sheep does the farmer have?

6 In each packet of biscuits there are 12 biscuits. If Sonia has 144 biscuits altogether, how many packets does she have?

7 Ammar cut a 5 m length from a ball of string. If the ball of string was 22 m long, how much string was left?

8 At the pet show, there were 11 pens each holding the same number of animals. If there were 110 animals in total, how many animals were in each pen?

Substitution

1 Find the value of *a* for each of the following.

   a $4 + a = 26$ _____

   b $a \times 10 = 120$ _____

   c $45 \div a = 9$ _____

   d $a - 11 = 37$ _____

2 Complete the tables of values by making the substitutions.
The first one has been done for you.

   a $y = 2x + 5$

x	0	1	2	3
y	5	7	9	11

   b $y = 2x + 6$

x	0	1	2	3
y				

   c $y = 10 - 2x$

x	0	1	2	3
y				

   d $y = 4x$

x	0	1	2	3
y				

   e $y = 6x - 5$

x	0	1	2	3
y				

   f $y = x + 3$

x	0	1	2	3
y				

3 Construct a table of values for each of the following equations.

   a $y = 3x + 1$

   b $y = 4x - 3$

4 Try:

   a $y = x + 1$

x					
y	0	1	2	3	4

   b $y = x - 3$

x					
y	0	1	2	3	4

5 Why is Question 4 trickier than Question 2?

_____

STUDENT ASSESSMENT

1 Here is an equation: 5 + 9 = 14. List all the related equations.

2 For 5 + 9 = 14, write three related equations that have missing numbers.

3 Find the value of ☐ in each of the following.

a 2 + ☐ = 21   **b** 15 − ☐ = 2

c ☐ × 11 = 44   **d** ☐ ÷ 7 = 49

4 Complete the tables of values for the following.

a $y = 2x + 1$

x	0	1	2	3
y				

b $y = 10 - x$

x	0	1	2	3
y				

5 Explain the pattern of:

Unit

6

Patterns and Algebra (TRB pp. 56–59)
Patterns and algebra Introduce the concept
of variables as a way of representing
numbers using letters (ACMNA175) AC

Create algebraic expressions and
evaluate them by substituting a given value
for each variable (ACMNA176) AC

Extend and apply the laws and
properties of arithmetic to algebraic
terms and expressions (ACMNA177) AC

Data Displays

1 Write a survey question for your class, such as:
"What is your favourite football team?"

_____

_____

2 Collect data about your question and create a tally chart.

3 Use your data to create an appropriate graph.

Unit **7** Data Representation (TRB pp. 64–67)
Data representation and interpretation Identify and investigate issues involving numerical data collected from primary and secondary sources (ACMSP169) **AC**

Construct and compare a range of data displays including stem-and-leaf plots and dot plots (ACMSP170) **AC**
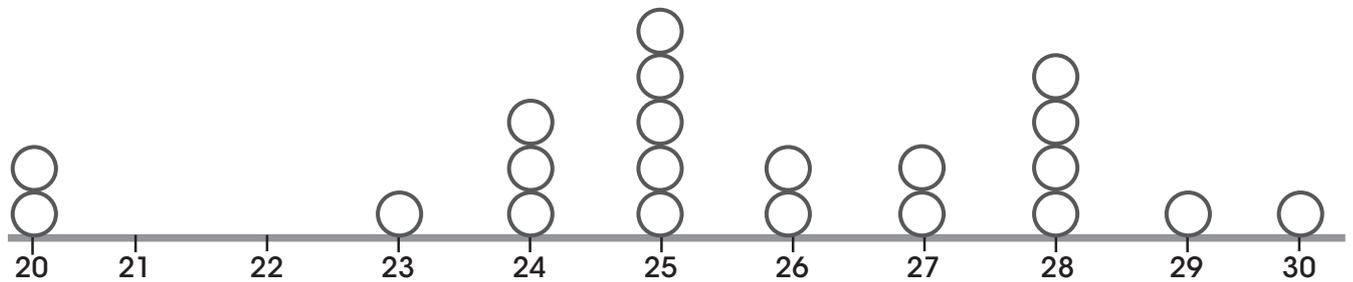
Dot Plots

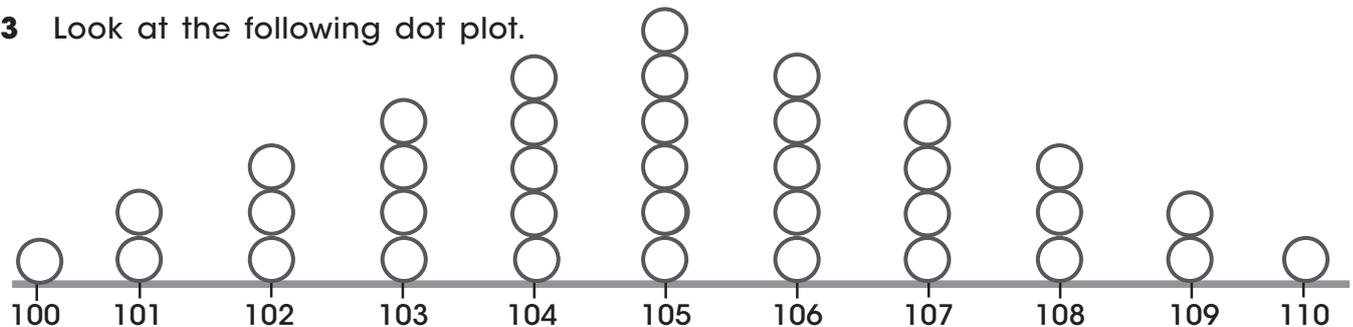**1** Look at the following dot plot for the number of red snacks in a mixed box of 20.
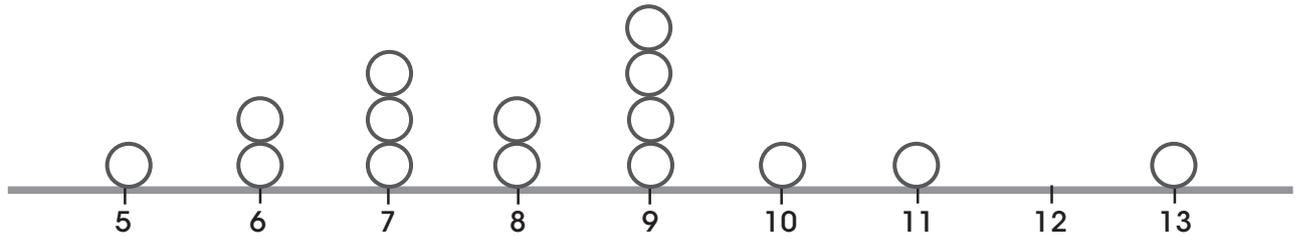
a What was the most common number of red snacks? _____

b What was the number of 12 red snacks appearing in the mixed box? _____

c What was the range of number of red snacks in the mixed box? _____

2 Look at the following dot plot for the marks received in a practice test out of 30.

a What was the most common mark for the practice test? _____

b How many students received 25 to 27 for the practice test? _____

c How many students received less than 25 for the practice test? _____

3 Look at the following dot plot.

a Give it a theme. _____

b Write three questions about the data:

i _____

_____

ii _____

_____

iii _____

_____

Unit 7 Data Representation (TRB pp. 64–67)
Data representation and interpretation Identify and investigate issues involving numerical data collected from primary and secondary sources (ACMSP169) **AC**

Construct and compare a range of data displays including stem-and-leaf plots and dot plots (ACMSP170) **AC**

Stem-and-Leaf Plots

1 The following stem-and-leaf plot was created about students' scores.

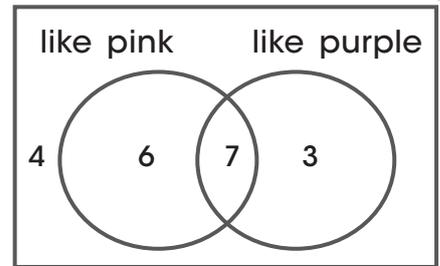| Stem	Leaf
1	5 6 7 8 8
2	1 3 4 5 8 9
3	1 2 5 6 7
4	4 7 8 9 9

a How many students scored more than 30? _____

b How many students received 39? _____

c Did any students receive less than 10? _____

2 a Create a stem-and-leaf plot about the following weights of boxes at a factory.

49 kg, 38 kg, 36 kg, 25 kg, 48 kg, 56 kg, 60 kg, 60 kg, 51 kg, 45 kg,

44 kg, 38 kg, 33 kg, 31 kg, 29 kg, 20 kg, 55 kg, 50 kg, 45 kg

b Write three questions about the data.

_____

_____

_____

Unit **7** Data Representation (TRB pp. 64–67)
Data representation and interpretation Identify and investigate issues involving numerical data collected from primary and secondary sources (ACMSP169) **AC**

Construct and compare a range of data displays including stem-and-leaf plots and dot plots (ACMSP170) **AC**

STUDENT ASSESSMENT

like pink   like purple

4   6   7   3

1 For the Venn diagram:

   a How many people like pink? _____

   b How many people only like purple? _____

   c How many people like both pink and purple? _____

   d How many people do not like pink or purple? _____

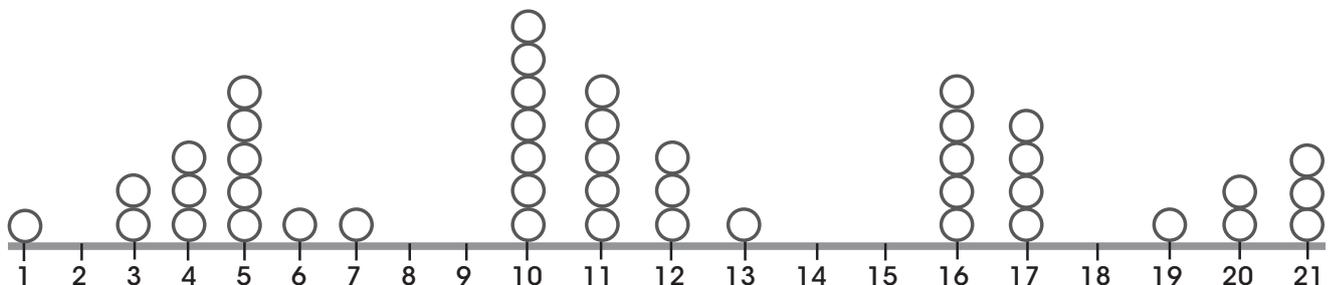**2** For the data set: 12, 11, 13, 15, 18, 19, 21, 25, 16, 17, 25, 24, 22, 21, 20

   a Suggest a heading. _____

   b Create a tally table.

   c Create a graph.

3 List 3 different data displays.

   a _____

   b _____

   c _____

4 For the dot plot:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

   a What was the most popular number? _____

   b How many numbers were greater than 20? _____

   c How many numbers were less than or equal to 5? _____

Unit

7

Data Representation (TRB pp. 64–67)
Data representation and interpretation Identify and investigate issues involving numerical data collected from primary and secondary sources (ACMSP169) **AC**

Construct and compare a range of data displays including stem-and-leaf plots and dot plots (ACMSP170) **AC**

Percentage of an Amount

1 What is a percentage?

_____

_____

2 Find each of the following.

a 10% of 100 = _____

b 30% of 10 = _____

c 60% of 100 = _____

d 80% of 100 = _____

e 20% of 10 = _____

f 70% of 100 = _____

3 Find each of the following.

a 20% of 50 = _____

b 50% of 30 = _____

c 90% of 200 = _____

d 60% of 70 = _____

e 70% of 80 = _____

f 40% of 180 = _____

4 Find each of the following.

a 25% of 60 = _____

b 35% of 200 = _____

c 95% of 100 = _____

d 15% of 50 = _____

e 75% of 40 = _____

f 45% of 80 = _____

5 Find each of the following.

a 25% of $100 = _____

b 75% of 90 kg = _____

c 30% of 50 cm = _____

d 40% of 200 km = _____

e 80% of 90 g = _____

f 35% of 40°C = _____

6 Find:

a twenty per cent of $80 _____

b fifty per cent of 11 buckets _____

c nine per cent of 100 cents _____

d eighty per cent of 300 bags _____

7 What is:

a 20% of 40 apples? _____

b 50% of 60 balls? _____

c 45% of 80 trees? _____

d 90% of 100 oranges? _____

Unit **8**

Percentages (TRB pp. 72–75)
Real numbers Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies (ACMNA158) AC

Calculating with Percentages

1   Complete the table.

	Percentage	Decimal	Fraction
a	45%		
b	95%		
c	105%		
d	27%		
e	30%		
f	80%		
g	220%		
h	5%		

2   Find:

   a 50% of 200 _____   **b** 80% of $110 _____

   c 30% of 60 kg _____   **d** 5% of 90 lollies _____

3   If I had:

   a 80 apples from a box of 100, what percentage do I have? _____

   b 20 balls from a set of 50, what percentage do I have? _____

   c 30 pencils of the 150 available, what percentage do I have? _____

   d 5 blocks from a set of 50, what percentage do I have? _____

4   Eliza has 10% of the available toys. If there are 50 toys and Adam has the rest, how many toys does Adam have? _____

5   Jemma has 20% of the cake. If there are 10 slices of cake, how much do Grace and Yianni have? _____

Unit **8** Percentages (TRB pp. 72–75)
Real numbers Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies (ACMNA158) **AC**

Recognise and solve problems involving simple ratios (ACMNA173) **AC**

Ratios

1 A bag contains 8 red counters and 10 blue counters. Find the ratio of:

   a red counters to blue counters _____

   b blue counters to red counters _____

   c red counters to the total number of counters _____

   d blue counters to the total number of counters _____

2 In a class there are 9 boys and 11 girls. Find:

   a the ratio of boys to girls _____

   b the ratio of girls to boys _____

   c the ratio of boys to the total number of students _____

   d the ratio of girls to the total number of students _____

   e the fraction of boys in the class _____

   f the percentage of boys in the class _____

   g the fraction of girls in the class _____

   h the percentage of girls in the class _____

3 In a box of chocolates there are 12 strawberry and 18 caramel chocolates. Find:

   a the ratio of strawberry to caramel chocolates _____

   b the ratio of caramel to strawberry chocolates _____

   c the ratio of caramel chocolates to the total number of chocolates _____

   d the ratio of strawberry chocolates to the total number of chocolates _____

   e the fraction of strawberry chocolates in the box of chocolates _____

   f the percentage of strawberry chocolates in the box of chocolates _____

   g the fraction of caramel chocolates in the box of chocolates _____

   h the percentage of caramel chocolates in the box of chocolates _____

4 Write your own ratio question using the number of sheep and the number
   of cows.

   _____

   _____

   _____

   _____

Unit **8** Percentages (TRB pp. 72–75)
Real numbers Find percentages of quantities and express one quantity
as a percentage of another, with and without digital technologies
(ACMNA158) **AC**

Recognise and solve problems involving
simple ratios (ACMNA173) **AC**

DATE:

STUDENT ASSESSMENT

1 **a** What is a percentage?

_____

_____

b What is a ratio?

_____

_____

2 Find:

   a 20% of 100 _____

   b 30% of $90 _____

   c 15% of 200 books _____

   d 80% of 50 toys _____

3 Tom has 40% of a set of cards. If there are 60 cards in the set, how many cards does Ishita have? _____

4 I have 50% of the pieces of a jigsaw. If I have 62 pieces of the jigsaw, how many pieces are there altogether? _____

5 There are 40 dogs and 20 cats at the pet show.

   a What is the ratio of cats to dogs? _____

   b What is the ratio of dogs to cats? _____

   c What is the ratio of cats to the total number of animals? _____

   d What is the ratio of dogs to the total number of animals? _____
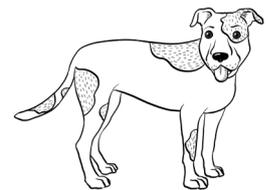
6 Cooper has 10 felt pens and 24 coloured pencils.

   a What is the ratio of felt pens to coloured pencils? _____

   b What is the ratio of coloured pencils to felt pens? _____

   c What is the ratio of felt pens to the total number of colouring items? _____

   d What is the ratio of coloured pencils to the total number of colouring items? _____

Unit

8

Percentages (TRB pp. 72–75)
Real numbers Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies (ACMNA158) AC

Recognise and solve problems involving simple ratios (ACMNA173) AC

Prisms and Solids

You may need: scissors, glue

Complete the following table, either drawing a diagram or finding one to cut out and paste in the second column.

Name	Diagram
Rectangular prism	
Triangular prism	
Cylinder	
Sphere	
Cone	
Triangular-based pyramid	
Square-based pyramid	
Hexagonal prism	

Deconstructing 3D Shapes

Complete the following table by drawing each of the elements that make up that shape. The first one has been done for you.

Name	Diagram
Rectangular prism	
Triangular prism	
Cylinder	
Sphere	
Cone	
Triangular-based pyramid	
Square-based pyramid	
Hexagonal prism	

Views and Cubes

You will need: some 1 cm cubes

Draw the different views for each of the following models.

You may wish to build the model out of 1 cm cubes to help.

Model	Top view	Bottom view	Left side view	Right side view

STUDENT ASSESSMENT

1 Complete the following table.

Shape	Name	Number of faces	Number of edges	Number of corners
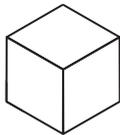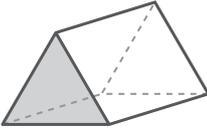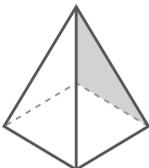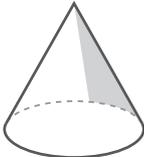
2 Show the shapes that would be used to make a rectangular prism.

3 Draw and label three different views of the following shape.
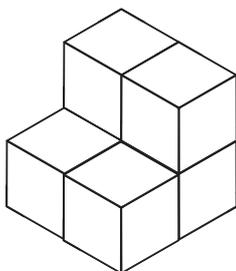
Unit

9

Prisms and Solids (TRB pp. 80–83)
Shape Draw different views of prisms and solids formed from combinations of prisms (ACMMG161) **AC**

Translation

You will need: coloured pencils or felt pens

1   On the Cartesian plane below, plot the following points: (–3, 2), (–3, 6), (–8, 2).
    Create the shape in blue.

2   Move your shape 5 units to the right and create it in green.

3   Move your shape 8 units down and create it in red.

4   Finally, move your shape 3 units to the left and create it in purple.
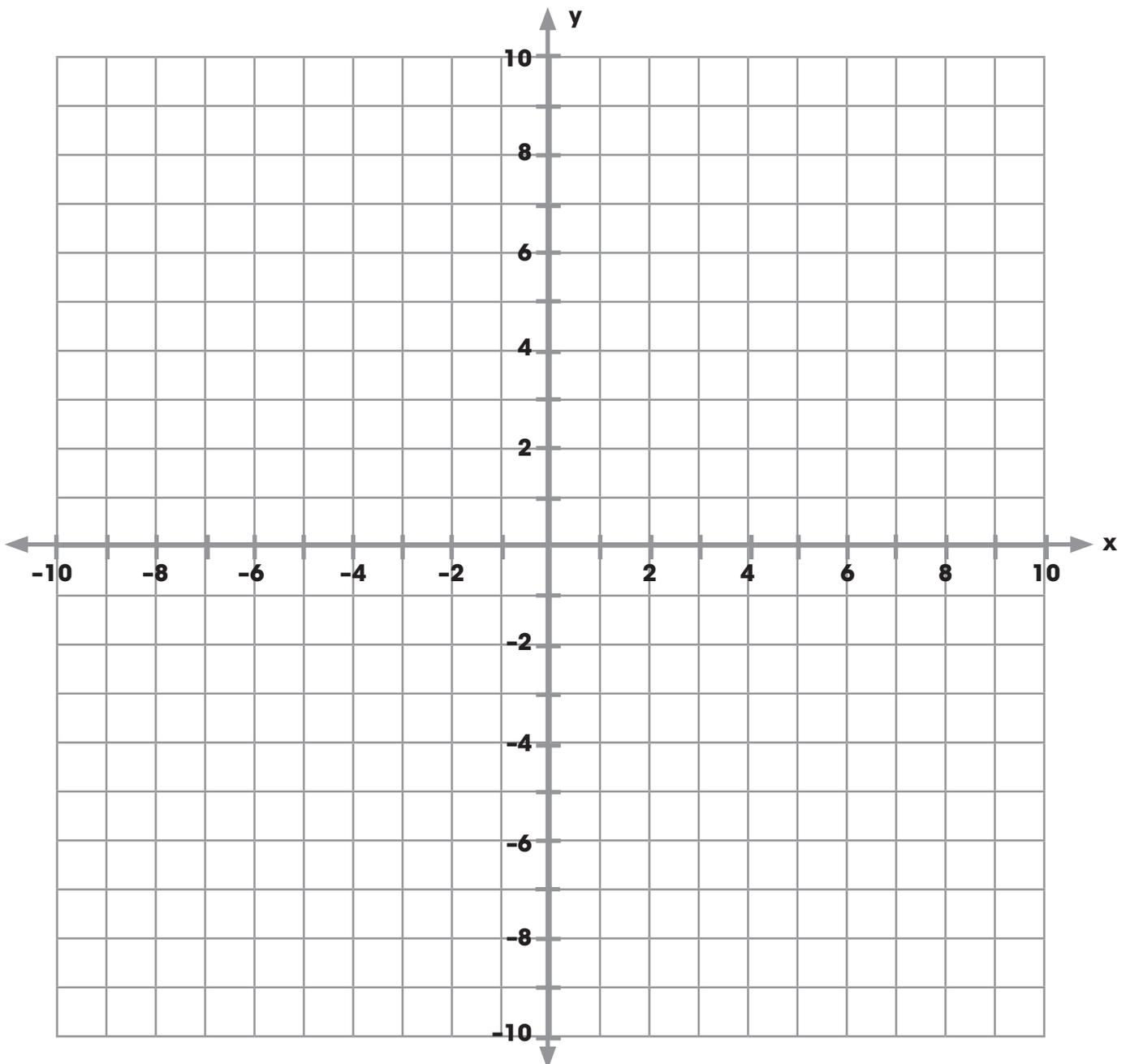
5   State the coordinates of the purple shape.

_____

Unit
10
Transformation and Symmetry (TRB pp. 88–91)
Location and transformation Describe translations, reflections in an axis, and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries (ACMMG181) **AC**

Reflection

You will need: coloured pencils or felt pens

1 On the Cartesian plane below, plot the following points: (–3, 2), (–3, 6), (–8, 2). Create the shape in blue.

2 Reflect your shape in the x-axis and create it in green.

3 Reflect your shape in the y-axis and create it in red.

4 Finally, move your shape 6 units up and create it in purple.

5 State the coordinates of the purple shape.

_____

Extension: Create your own reflection task.
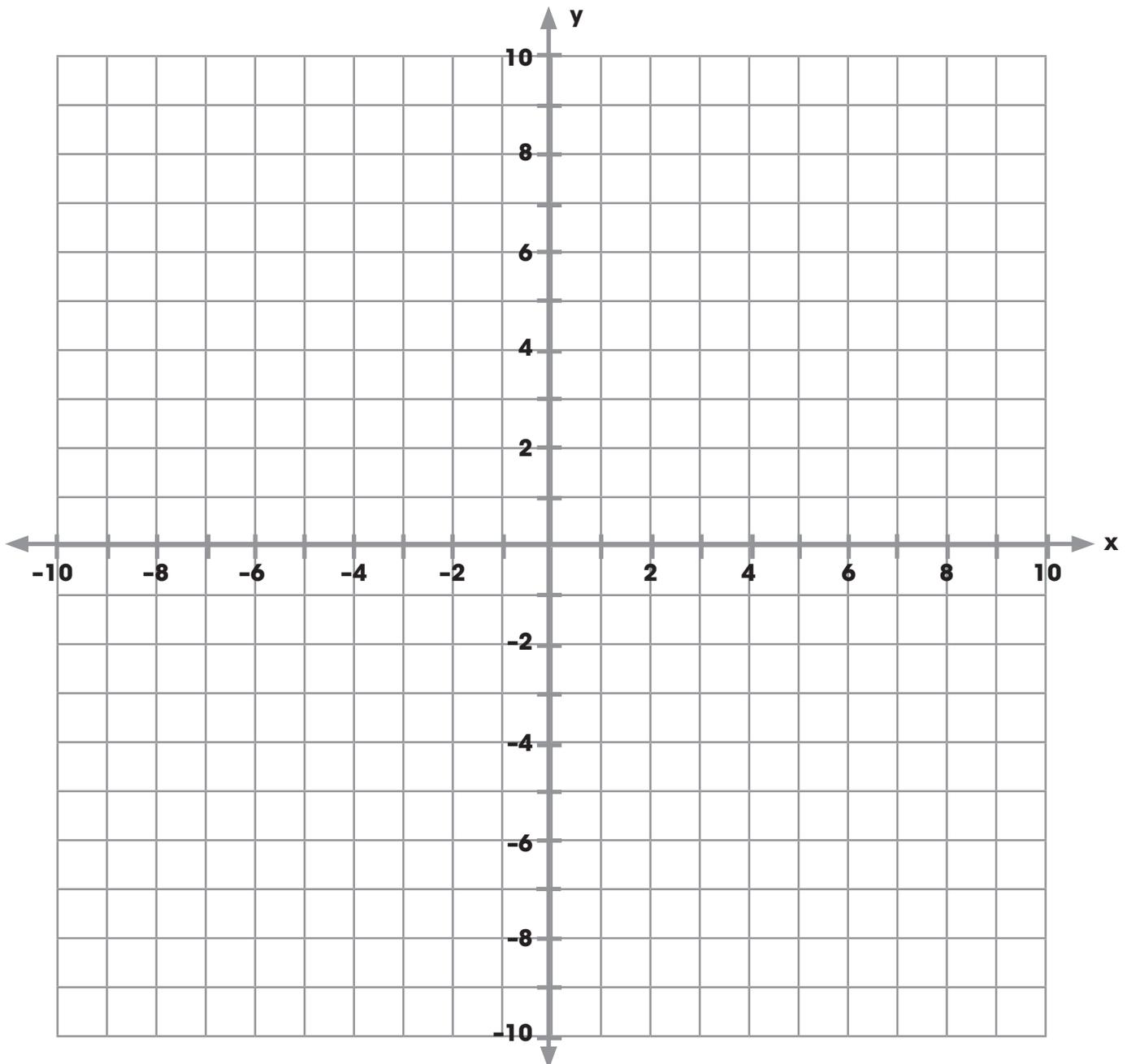
Unit **10**

Transformation and Symmetry (TRB pp. 88–91)
Location and transformation Describe translations, reflections in an axis, and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries (ACMMG181) **AC**

Rotation

You will need: coloured pencils or felt pens, shapes to trace

1 On the Cartesian plane below, use one or more shapes to trace and design a clothing company logo that uses rotation.

2 Make sure your design is centred on the origin of the axis below.

3 You may wish to use a less conventional shape to rotate, such as a kite.

4 Colour your logo.
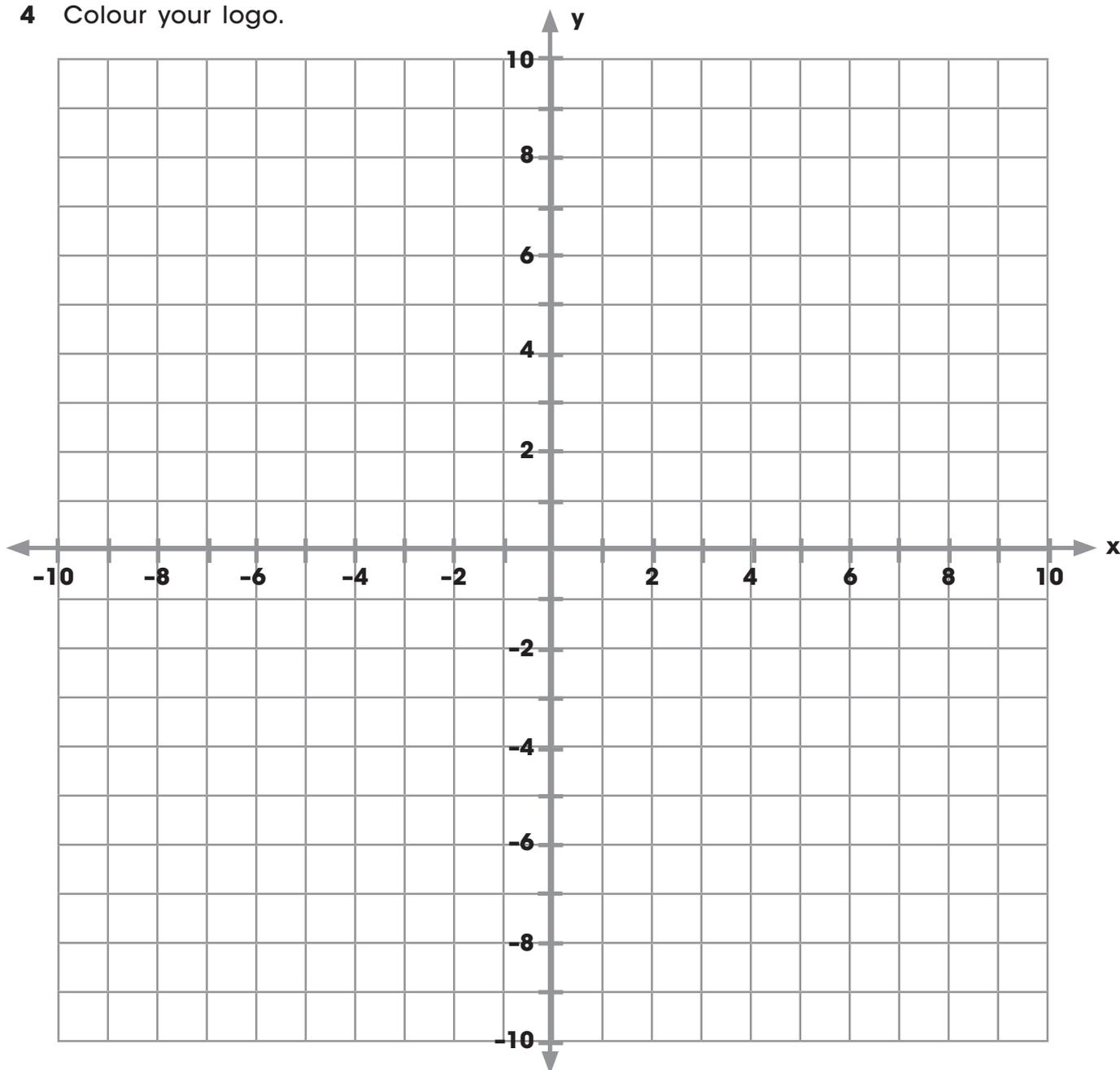
5 Describe your logo and the rotational elements.

_____

_____

_____

Unit
10
Transformation and Symmetry (TRB pp. 88–91)
Location and transformation Describe translations, reflections in an axis, and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries (ACMMG181) **AC**

You will need: coloured pencils

1   On the Cartesian plane below, draw a rectangle that is 3 units wide and 5 units long in the first quadrant, using the given point.

2   State the coordinates of the corners of the rectangle.

    _____

3   Translate the rectangle 8 units to the left and create it in green.

4   Reflect the rectangle in the x-axis and create it in orange.

5   State the coordinates of the reflected rectangle.
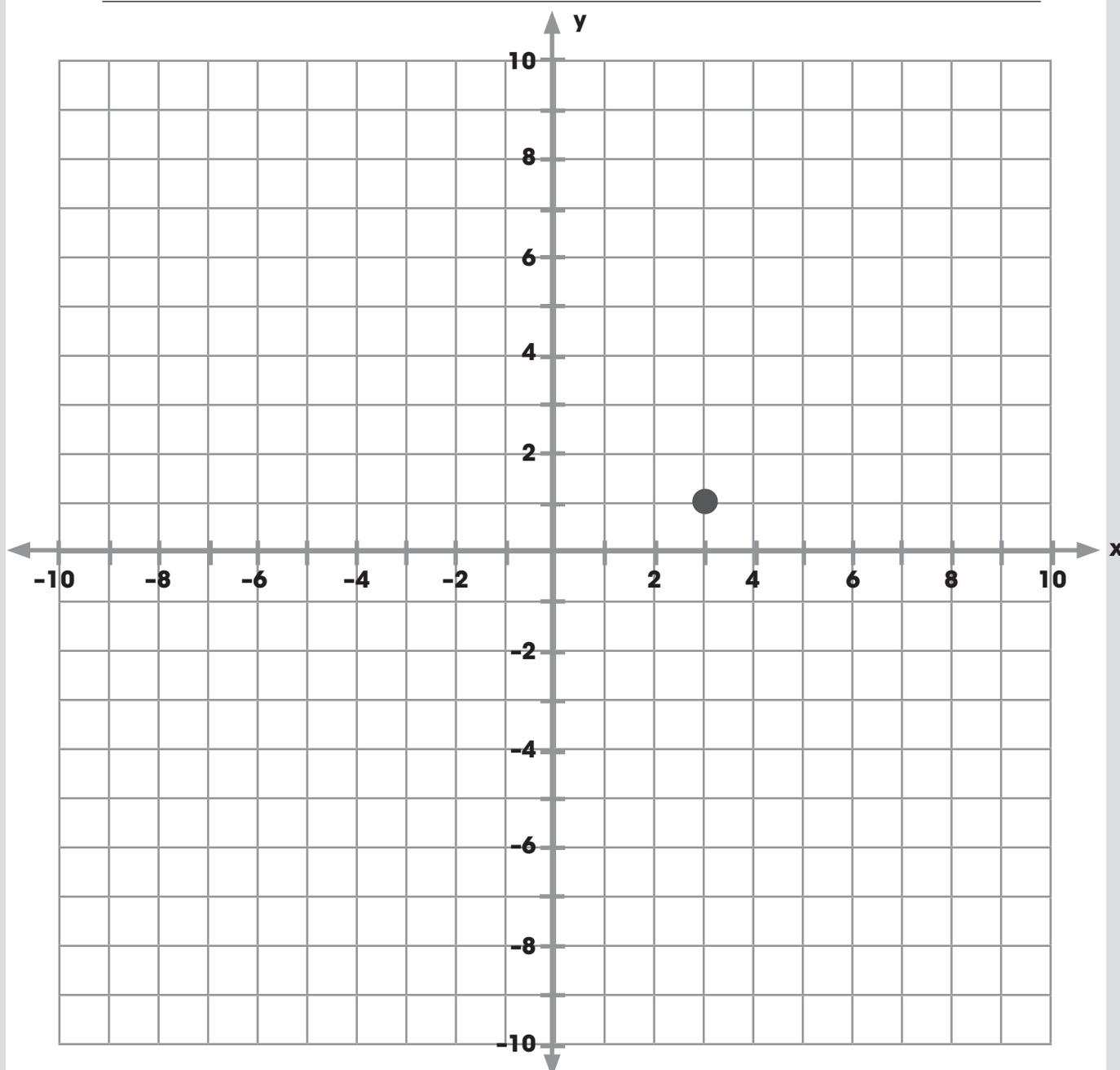
    _____

Unit

10

Transformation and Symmetry (TRB pp. 88–91)
Location and transformation Describe translations, reflections in an axis, and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries (ACMMG181) **AC**

Plotting Points

You will need: coloured pencils or felt pens, ruler

1 On the Cartesian plane below, plot the following points: (–2, –6), (0, –4), (2, –2), (4, 0), (6, 2), (8, 4).

2 Join the points in blue. What do you notice?

3 Plot the following points: (–2, 6), (0, 4), (2, 2), (4, 0), (6, –2), (8, –4).

4 Join the points in green. What do you notice?

5 Now create your own line in red. Record your coordinates here.

_____
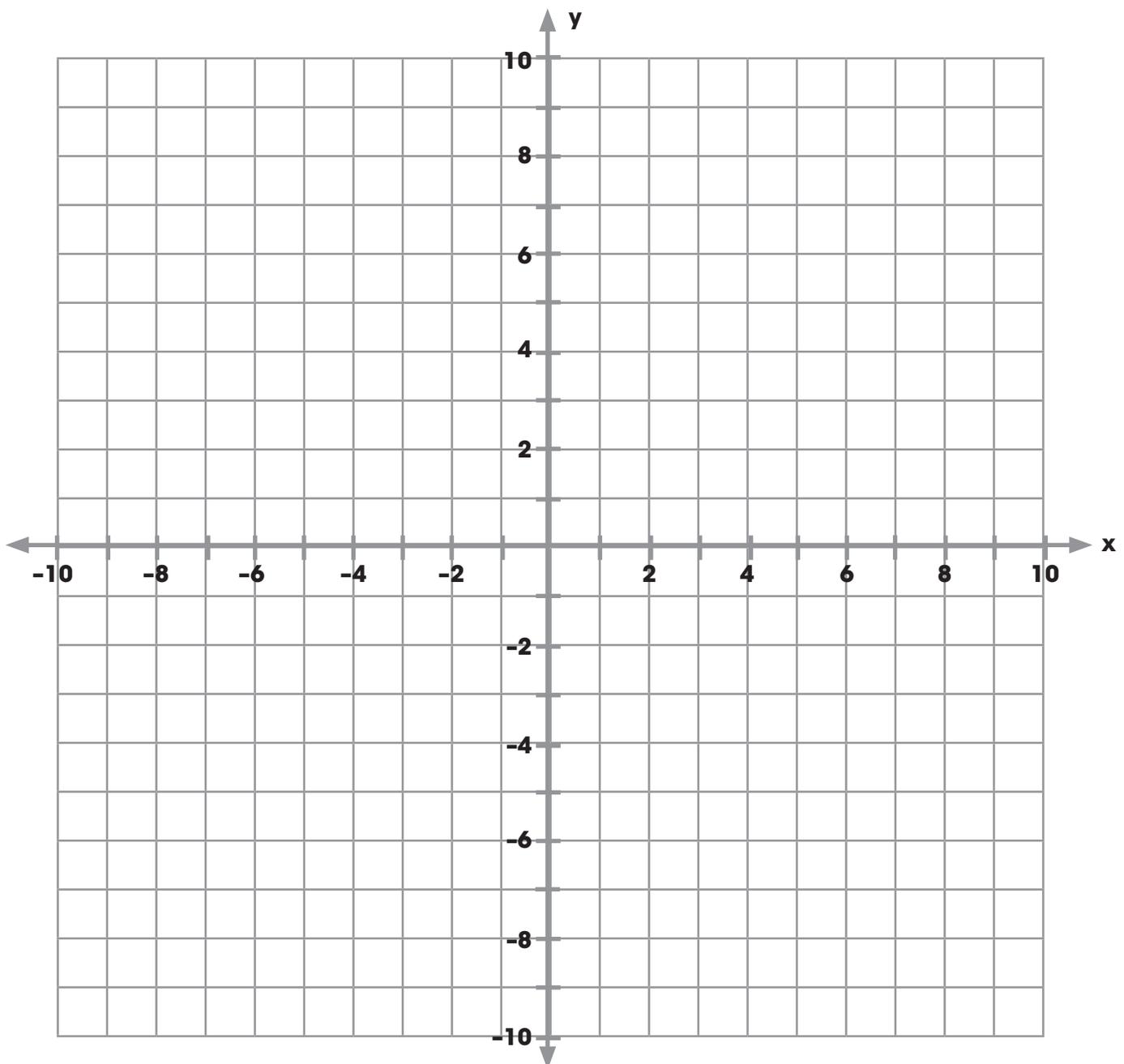
Giving Coordinates

You will need: coloured pencils or felt pens, ruler

1 For each of the shapes in the grid below:

   a Identify the shape and write its name in the table.

   b In the table, list the coordinates of each corner of the shape.

2 Draw your own shapes for numbers 5 and 6 and add them to the table.

Shape	Shape name	Coordinates
1		
2		
3		
4		
5		
6		
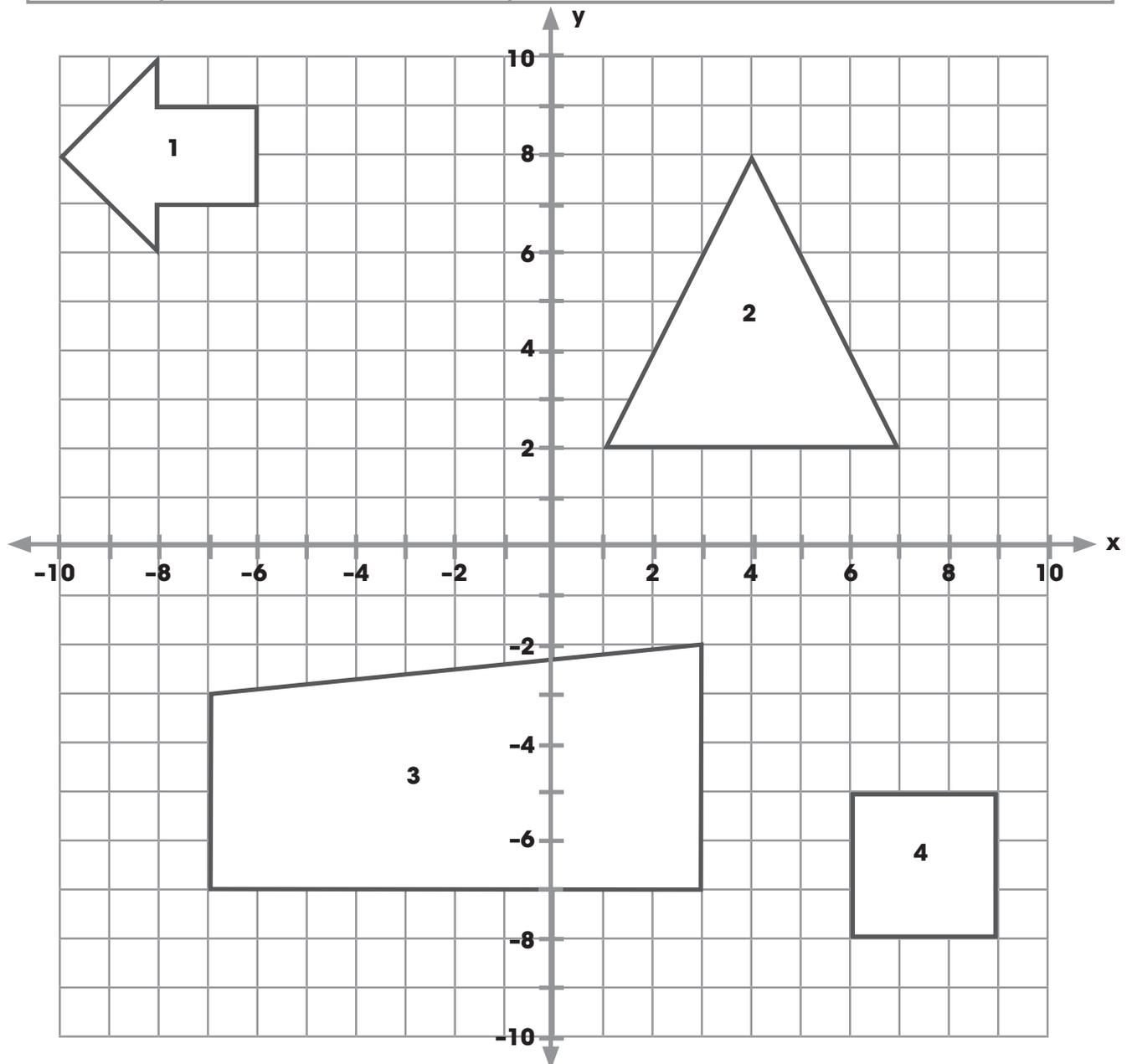
Plotting Lines

You will need: coloured pencils or felt pens, ruler

1 Complete a table of values for each of the following lines.

a $y = x + 3$

x	0	1	2	3
y				

b $y = 2x + 2$

x	0	1	2	3
y				

c $y = x - 5$

x	0	1	2	3
y				

d $y = -x + 2$

x	0	1	2	3
y				

2 Using the tables of values from Question 1, plot each line on the coordinate axis below with a different colour and label each line with the equation.
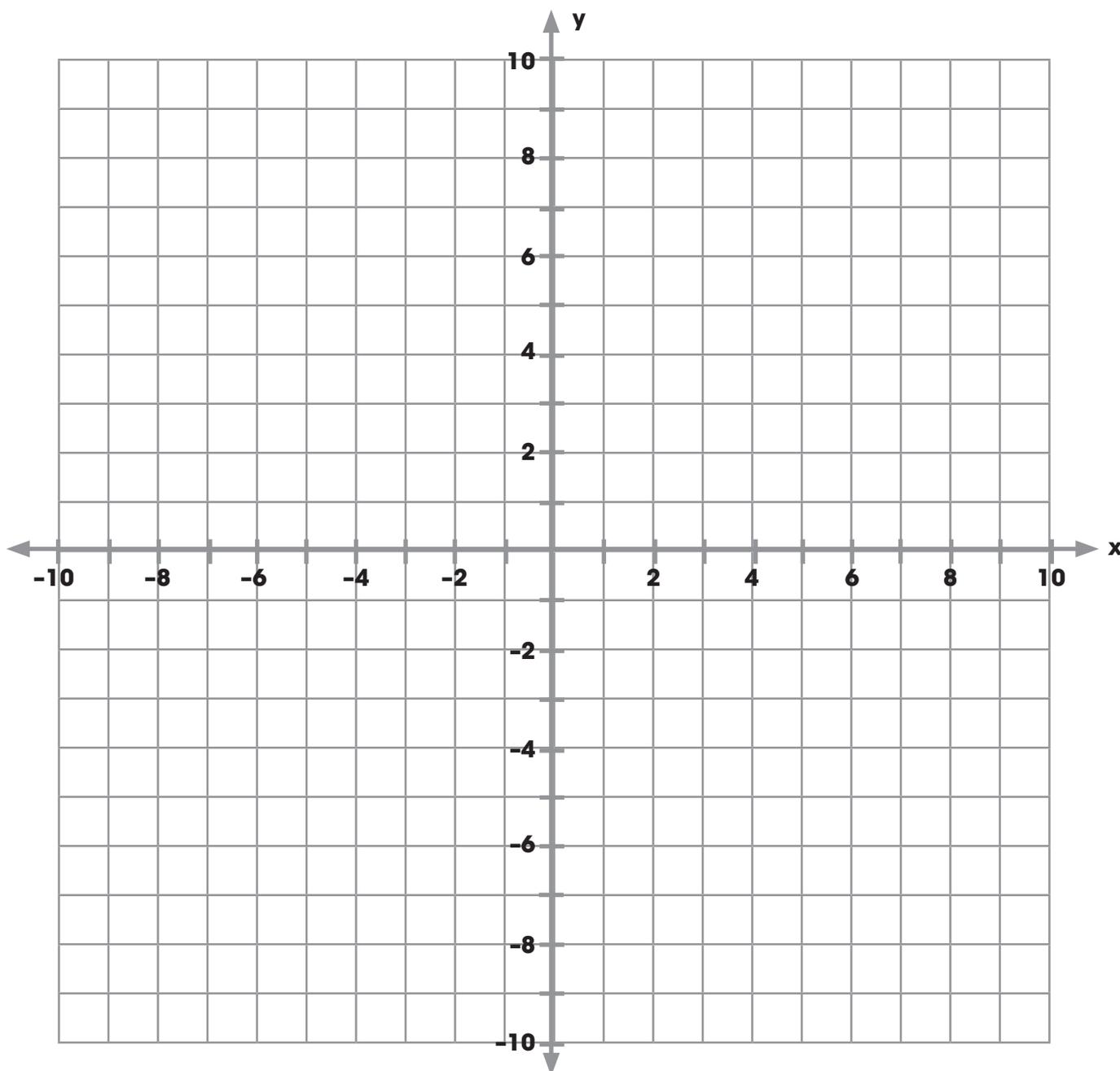
Extension: Write two equations of your own, complete the tables of values and add the lines to the coordinate axis.

Unit **11** Linear and Non-Linear Relationships (TRB pp. 96–99)
Linear and non-linear relationships Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point (ACMNA178) **AC**

Solve simple linear equations (ACMNA179) **AC**

DATE:

STUDENT ASSESSMENT

You will need: coloured pencils, ruler

1 On the Cartesian plane below, plot the following points:
(2, 1), (3, 2), (4, 3), (5, 4), (6, 5).
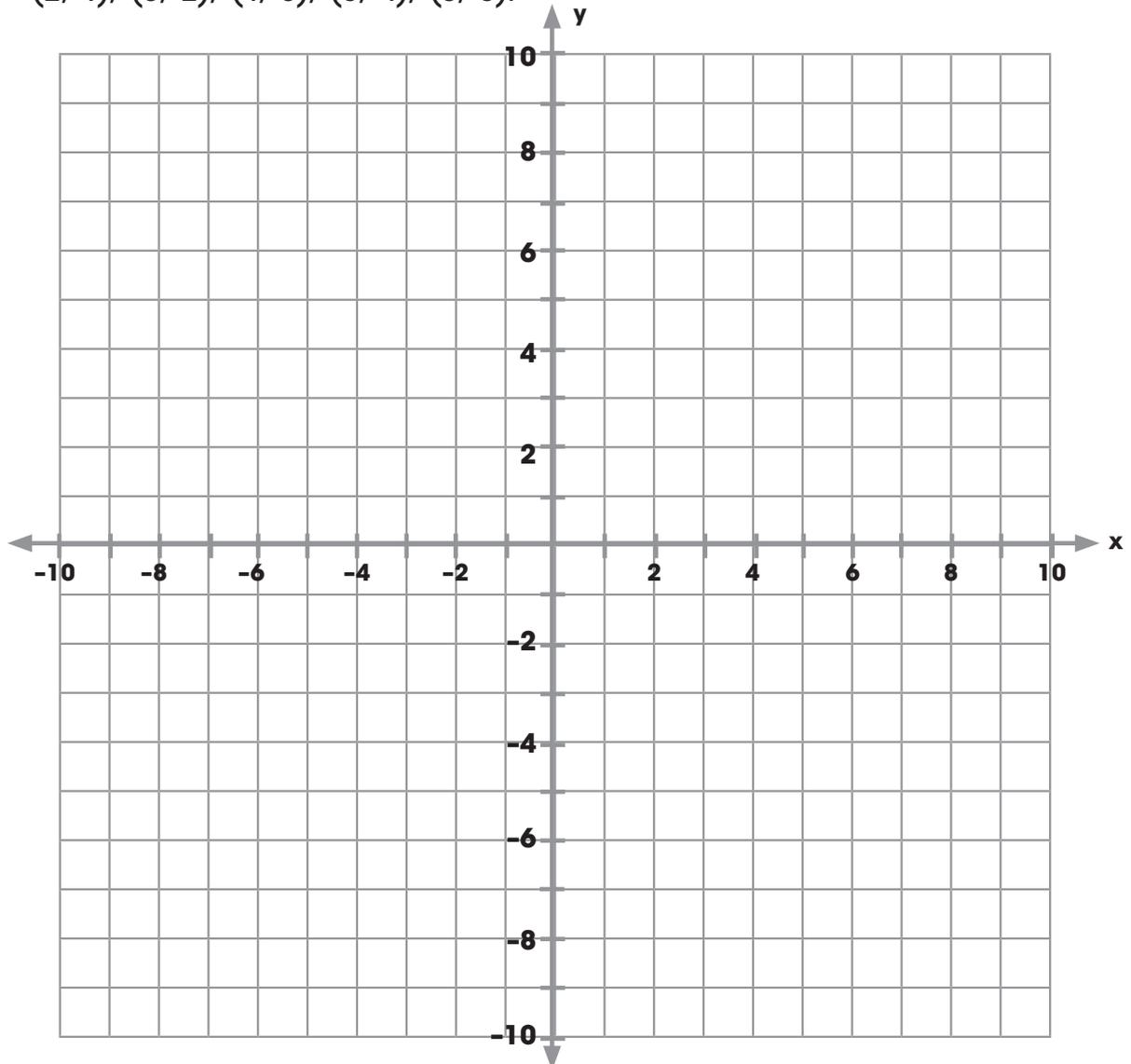
2 What do you notice about the plotted points?

_____

_____

3 Give two more points that are related to Question 1.

_____

4 For $y = x + 1$, complete the table of values.

x	0	1	2	3
y				

5 Draw the line in Question 4 in a different colour on the coordinate axis.

Unit
11

Linear and Non-Linear Relationships (TRB pp. 96–99)
Linear and non-linear relationships Given coordinates, plot points
on the Cartesian plane, and find coordinates for a given point
(ACMNA178) **AC**

Solve simple linear equations (ACMNA179) **AC**

Language of Chance

1   Complete the following table by writing two examples of each.

Chance	Example 1	Example 2
Impossible		
Unlikely		
Likely		
Possible		
Certain		
Equal chance	The baby bird that is hatching has an equal chance of being male or female.	

2   In the blank space above, include one example of your own.

Spinners

You will need: coloured pencils or felt pens

1 Write the number of the spinner that has the greatest chance of landing on:

a Red _____
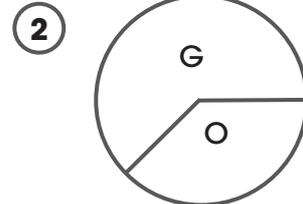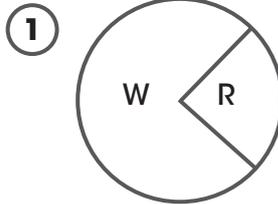
b Green _____
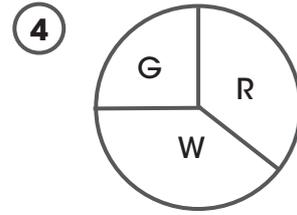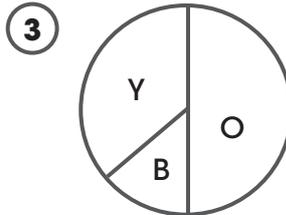
c Blue _____

d Pink _____

e White _____

f Yellow _____

① W R

② G O

③ Y O B

④ G R W

⑤ Y O P

⑥ G R B
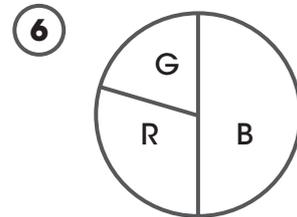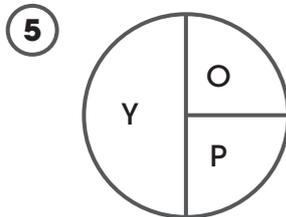
2 Shade each of the spinners using the scale to show the probability of the spinners landing on green.

	Scale
1	Impossible
2	Unlikely
3	Equal chance
4	Likely
5	Very likely
6	Certain

①

②

③

④

⑤

⑥
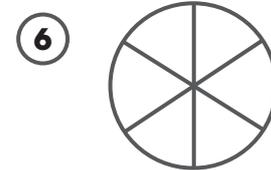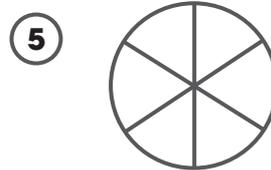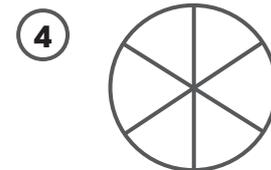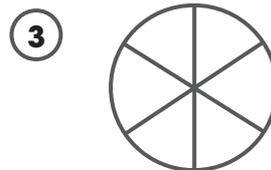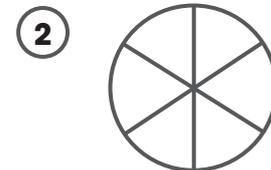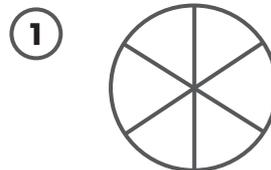
3 Create your own spinners to show:

a Equal chance

b Very likely

Unit
12
Chance (TRB pp. 104–107)
Chance Construct sample spaces for single-step experiments with equally likely outcomes (ACMSP167) **AC**

Assign probabilities to the outcomes of events and determine probabilities for events (ACMSP168) **AC**
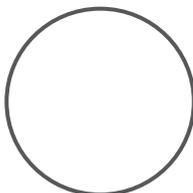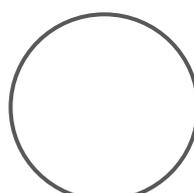
10-Sided Dice

You will need: 10-sided dice

1 What is the chance (as a fraction and a decimal) of obtaining each of the following values on a 10-sided dice?

a 1 _____   b 9 _____

c 0 _____   d 10 _____

e 5 _____

2 How can this be checked?

_____

_____

3 What is the chance (as a fraction and a decimal) of obtaining each of the following on a 10-sided dice?

a An even number _____

b An odd number _____

c A number less than 5 _____

d A number greater than 7 _____

e A 3, 5, 7 or 8 _____

f A number between 3 and 6 _____

4 Roll two 10-sided dice 100 times, and add the totals together each time. For example: dice rolls of 9 and 8 would give 9 + 8 = 17. Collect the data.

5 What did you discover?

_____

_____

Unit 12 Chance (TRB pp. 104–107)
Chance Construct sample spaces for single-step experiments with equally likely outcomes (ACMSP167) AC

Assign probabilities to the outcomes of events and determine probabilities for events (ACMSP168) AC

Unit

12

STUDENT ASSESSMENT

You will need: coloured pencils, ruler

1 Give an example of something being:

a Unlikely _____

b Possible _____

2 Shade the spinner to show the chance of landing on green is very unlikely.
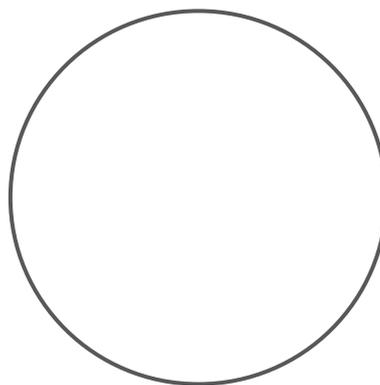
3 Shade the spinner to show a 3 in 8 chance of landing on orange.
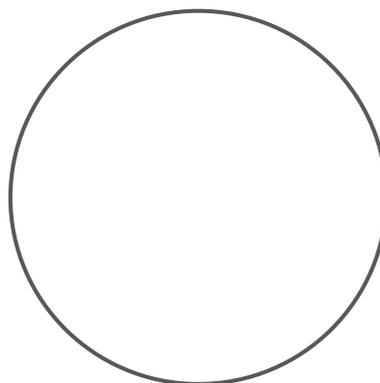
4 What is the chance of:

a Rolling an even number on a 6-sided dice?

_____

b Rolling an odd number on a 10-sided dice?

_____

c Rolling a number greater than 6 on a 10-sided dice?

_____

d Drawing a black picture card from a deck of cards?

_____

Unit

12

Chance (TRB pp. 104–107)
Chance Construct sample spaces for single-step experiments with equally likely outcomes (ACMSP167) **AC**

Assign probabilities to the outcomes of events and determine probabilities for events (ACMSP168) **AC**

Corresponding Angles

You will need: a protractor

1 Using a protractor, find the value of each letter in the diagrams.

a

a° = _____   b° = _____

b

s° = _____   t° = _____

c

x° = _____   y° = _____

d

m° = _____   n° = _____

2 Without using a protractor, find the value of each letter.

a

120°   a°

a° = _____

b

65°

b°

b° = _____

c

45°

c°

c° = _____

d

d°   80°

d° = _____

Unit **13** Angles and Parallel Lines (TRB pp. 112–115)
Geometric reasoning Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal (ACMMG163) **AC**

Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning (ACMMG164) **AC**

Alternate Angles

You will need: a protractor

1 Using a protractor, find the value of each letter in the diagrams.

a

a° = _____   b° = _____

b

c° = _____   d° = _____

c

e° = _____   f° = _____

d

g° = _____   h° = _____

2 Without using a protractor, find the value of each letter.

a

50°   a°

a° = _____

b

120°

b°

b° = _____

c

75°   c°

c° = _____

d

135°   d°

d° = _____

Unit **13**

Angles and Parallel Lines (TRB pp. 112–115)
Geometric reasoning Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal (ACMMG163) **AC**

Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning (ACMMG164) **AC**

Missing Angles

1 Without using a protractor, find the value of each letter.

a

120° a°

a° = _____

b

70°
b°

b° = _____

c

115°
c°

c° = _____

2 If the diagram shows co-interior angles, how could they be described?

a°
b°

_____

_____

_____
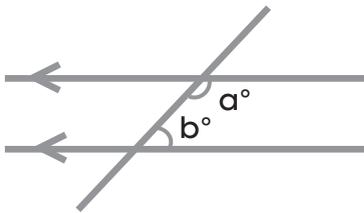
3 Describe corresponding angles.

_____

_____

4 Describe alternate angles.

_____

_____

5 Without using a protractor, find the value of each letter.

a

120°
a°
b°
c°

b

110°
e°
d°
f°

a° = _____   b° = _____   c° = _____   d° = _____   e° = _____   f° = _____

Unit **13** Angles and Parallel Lines (TRB pp. 112–115)
Geometric reasoning Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal (ACMMG163) **AC**

Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning (ACMMG164) **AC**

STUDENT ASSESSMENT
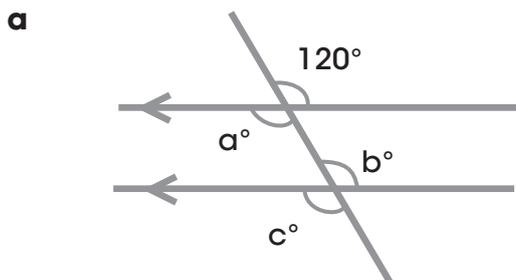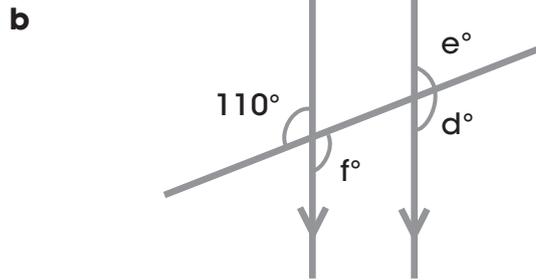
You will need: a protractor

1 Describe and draw a diagram of:

a Parallel lines

_____

_____

_____

b Perpendicular lines

_____

_____

_____

2 Find the value of each letter in the diagrams.

a

a°

b°

b

c°

d°
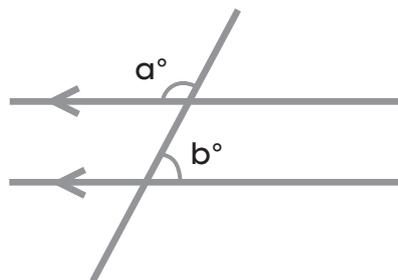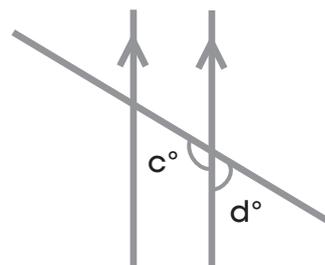
a° = _____   b° = _____   c° = _____   d° = _____

3 Find the value of each letter in the diagrams.

a

55°

b°

b

80°

c°

c

130°

d°

b° = _____   c° = _____   d° = _____
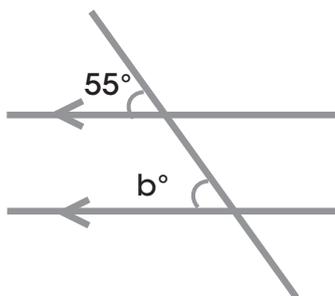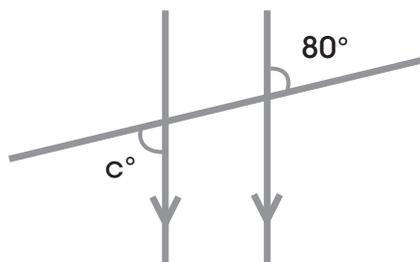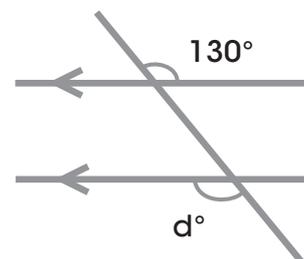
4 Explain how you worked out Question 3, part c.

_____

_____
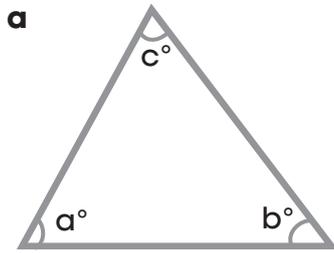
Angles and Triangles

You will need: a protractor

1 Using a protractor, find the value of each letter.

a

c°

a°   b°

a° = _____

b° = _____

c° = _____

b

f°

d°   e°

d° = _____

e° = _____

f° = _____

c

h°

i°

g°

g° = _____

h° = _____

i° = _____

2 Without using a protractor, find the value of each letter.

a

b°

50°   a°

a° = _____

b° = _____

b

90°

45°   c°

c° = _____

c

d°

d° = _____
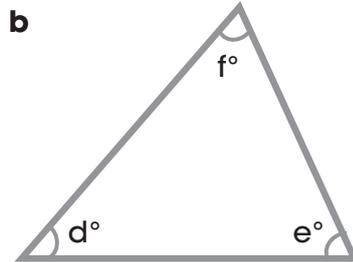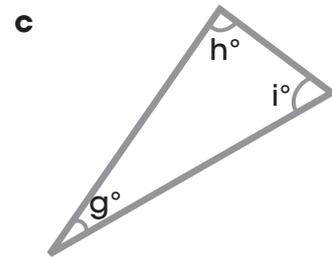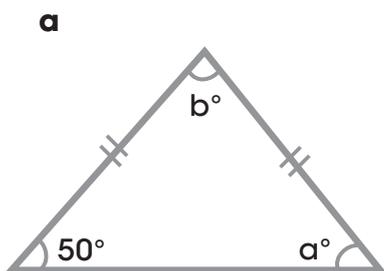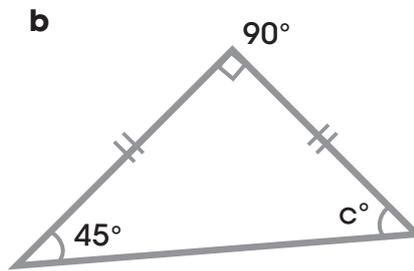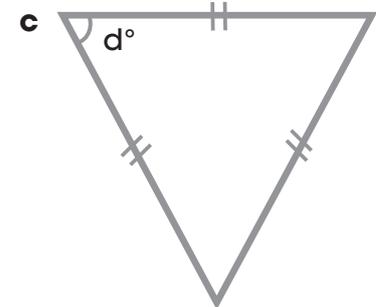
3 What do the angles in a triangle always add to? _____

4 Draw two examples of your own with missing angle values for a partner to find.

Triangles and Quadrilaterals

Complete the table for each of the following.

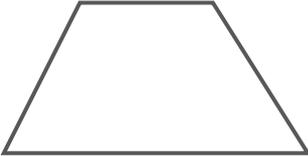| Shape	Triangle or quadrilateral?	Name	Description

Unit
14
Triangles and Angles (TRB pp. 120–123)
Geometric reasoning Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral
(ACMMG166) **AC**
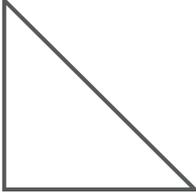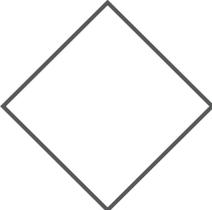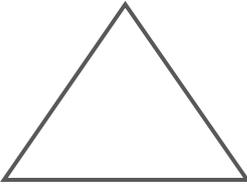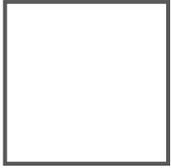
Finding Missing Angles

You will need: coloured pencils or felt pens

1 Without using a protractor, find the value of each letter in the triangles.

a

a°
60°   60°

b

b°
60°

c

100°   c°
30°

a° = _____

b° = _____

c° = _____
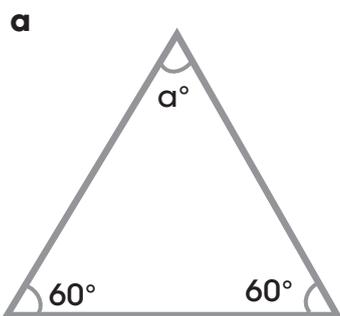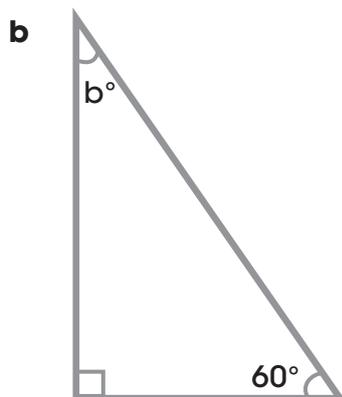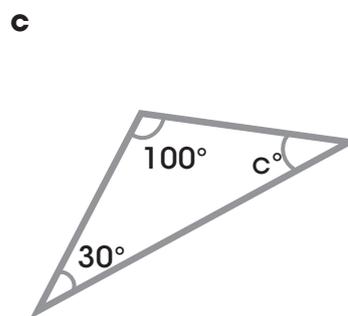
2 Without using a protractor, find the value of each letter in the quadrilaterals.

a

a°
b°

b

100°   c°
80°   d°

c

140°   140°
e°   f°

a° = _____
b° = _____

c° = _____
d° = _____

e° = _____
f° = _____
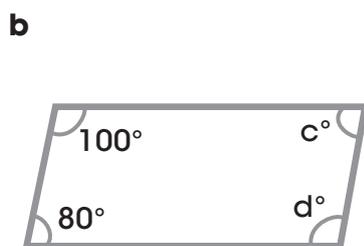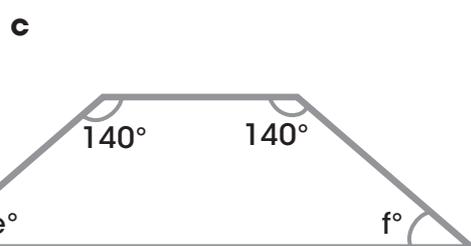
3 Investigate angles in hexagons, pentagons and octagons.
Explain/show what you have found.

Unit **14** Triangles and Angles (TRB pp. 120–123)
Geometric reasoning Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral (ACMMG166) **AC**

Classify triangles according to their side and angle properties and describe quadrilaterals (ACMMG165) **AC**

STUDENT ASSESSMENT

1 a Name each of the shapes.

   b Identify if each shape is a triangle or a quadrilateral.

_____   _____   _____   _____

_____   _____   _____   _____
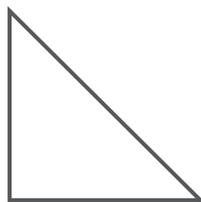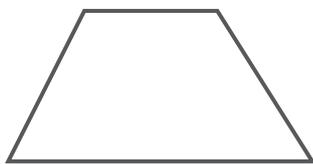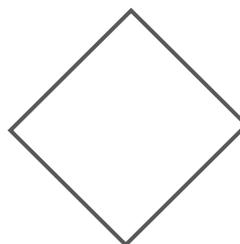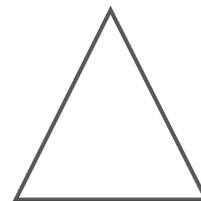
2 a Explain how to identify a triangle.

_____

_____

   b Explain how to identify a quadrilateral.

_____

_____

3 Find the value of each letter in the diagrams.
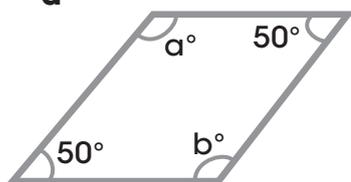
a

b
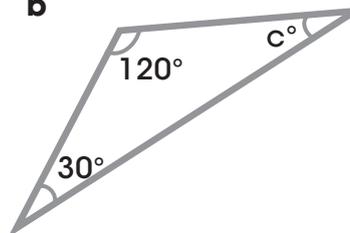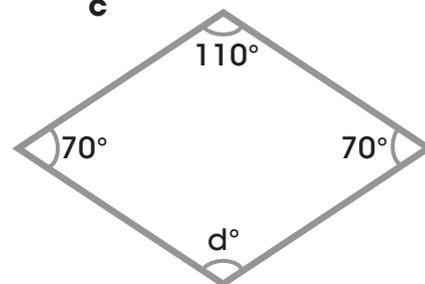
c

b° = _____   c° = _____   d° = _____

4 Explain how you worked out Question 3, part c.

_____

_____

_____

Unit

14

Triangles and Angles (TRB pp. 120–123)
Geometric reasoning Demonstrate that the angle sum of a triangle
is 180° and use this to find the angle sum of a quadrilateral
(ACMMG166) **AC**

Classify triangles according to their side and angle
properties and describe quadrilaterals (ACMMG165) **AC**

Mean

You will need: a calculator

1 Find the mean for each set of data.

   a 22, 25, 27, 26, 23, 21, 29 _____

   b 125 mL, 130 mL, 127 mL, 135 mL, 144 mL, 120 mL _____

   c 78 cm, 95 cm, 102 cm, 60 cm, 85 cm, 72 cm_____

   d 1000 kg, 1015 kg, 995 kg, 998 kg, 1028 kg, 1012 kg _____

2 Find the mean for each of these graphs. (Hint: you may wish to list the data.)

a

Mean _____

Number of items (y-axis: 0, 1, 2, 3, 4, 5)
A = 1, B = 3, C = 5, D = 4, E = 3, F = 2, G = 2

b

Mean _____

Number of days (y-axis: 0, 5, 10, 15, 20, 25)
Number of people (x-axis: 1, 2, 3, 4, 5, 6)
1 = 10, 2 = 20, 3 = 15, 4 = 20, 5 = 25, 6 = 20
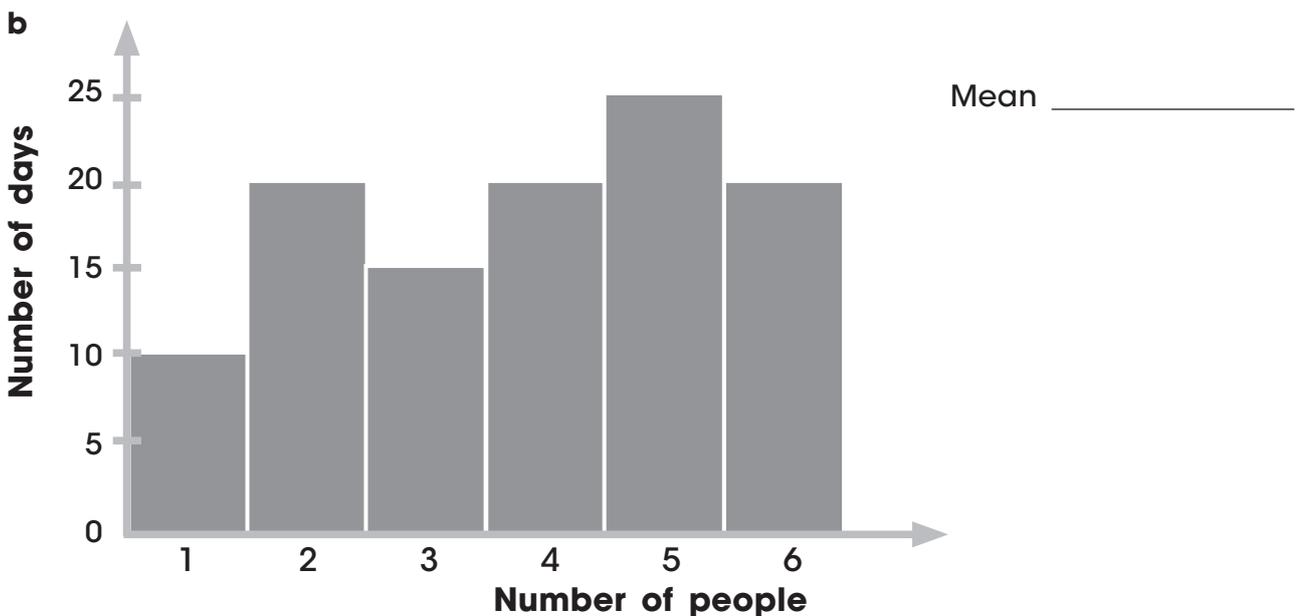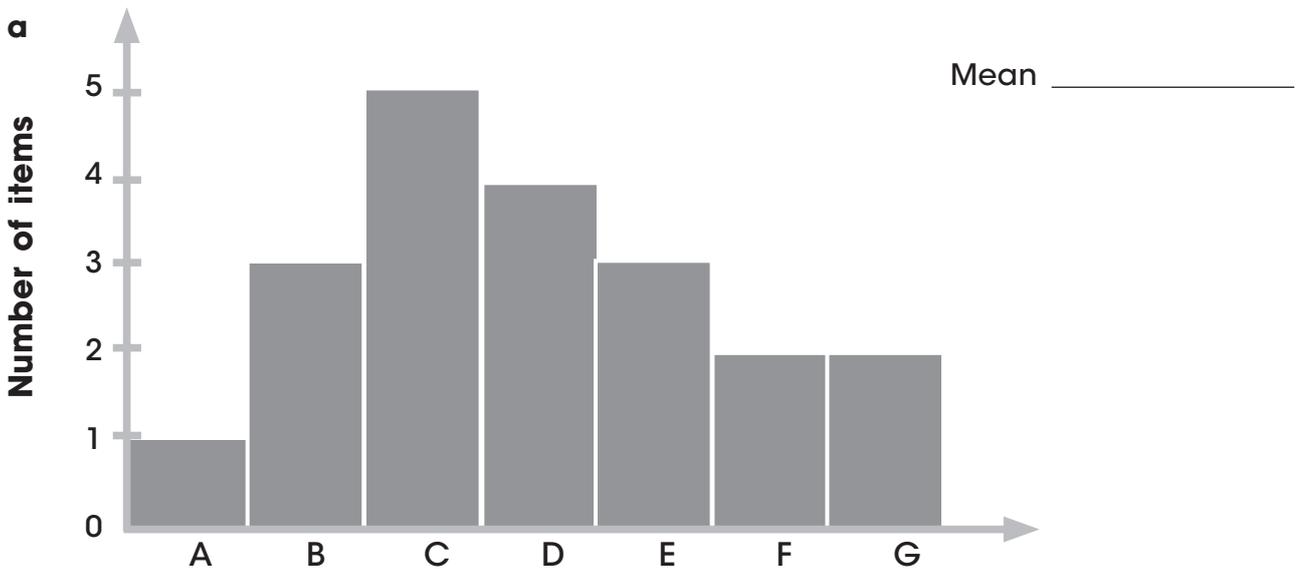
3 What does the mean tell us?

_____

_____

Unit **15** **Mean, Median and Mode** (TRB pp. 128–131)
Data representation and interpretation Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data (ACMSP171) **AC**

Describe and interpret data displays using median, mean and range (ACMSP172) **AC**

Median

You will need: a calculator

1 Find the median for each set of data.

    a 22, 25, 27, 26, 23, 21, 29, 21, 20 _____

    b 125 mL, 130 mL, 127 mL, 135 mL, 137 mL, 121 mL, 144 mL, 120 mL _____

    c 78 cm, 95 cm, 102 cm, 60 cm, 85 cm, 72 cm, 80 cm, 91 cm _____

    d 1000 kg, 1015 kg, 995 kg, 998 kg, 1028 kg, 1012 kg, 1007 kg, 990 kg _____

2 The range is the difference between the **lowest** and **highest** values of the data. For each of the data sets in question 1, state the range of the data.

    a _____   **b** _____

    c _____   **d** _____

3 State the range and the median for each of the graphs.

    a

Range _____

Median _____

    b

Range _____

Median _____

Unit **15**   **Mean, Median and Mode** (TRB pp. 128–131)
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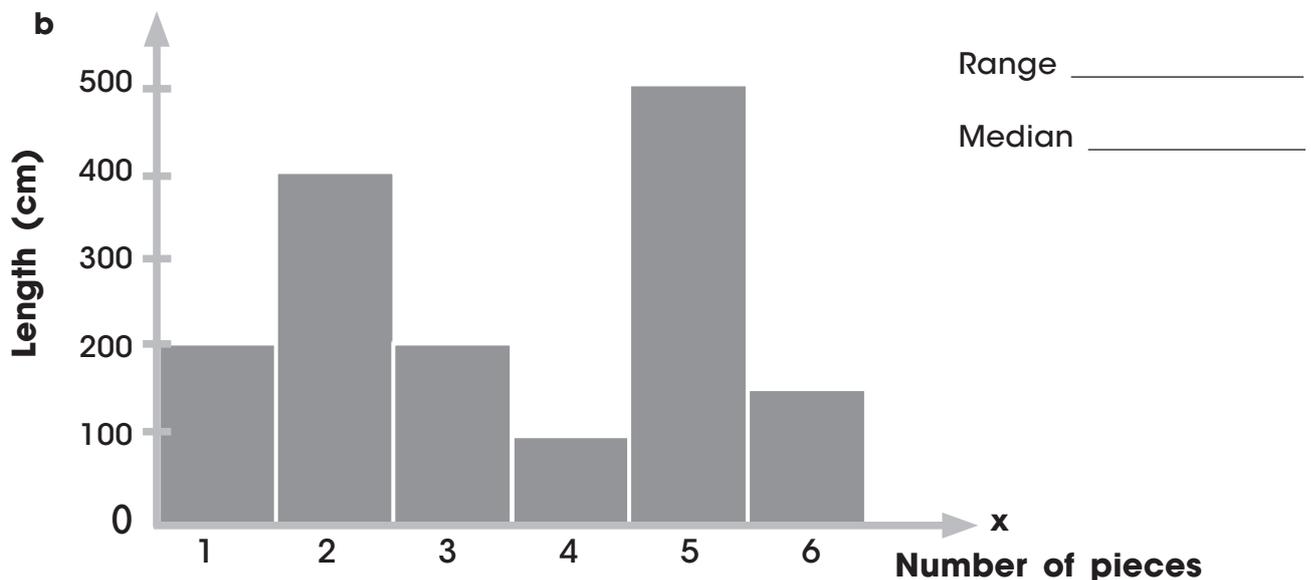
Mean, Median and Mode

You will need: coloured pencils or felt pens, ruler

1 Create a question to collect a set of data about. For example: favourite number, guessed cost of a bag of marbles.

_____

2 Collect your data.

3 Draw a dot plot of your data.

4 Find the mean, median, mode and range of your data.

a Mean: _____   **b** Median: _____

c Mode: _____   **d** Range: _____

Unit **15** **Mean, Median and Mode** (TRB pp. 128–131)
Data representation and interpretation Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data (ACMSP171) **AC**

Describe and interpret data displays using median, mean and range (ACMSP172) **AC**

STUDENT ASSESSMENT

You will need: coloured pencils or felt pens, ruler

1 Create a dot plot for the following set of data.

Foot length of students						
22 cm	25 cm	24 cm	24 cm	27 cm	30 cm	25 cm
25 cm	25 cm	23 cm	26 cm	31 cm	19 cm	23 cm
24 cm	26 cm	22 cm	28 cm	24 cm	25 cm	26 cm
23 cm	28 cm	27 cm	30 cm	24 cm	22 cm	22 cm

2 Find the mean, mode, median and range of the data.

a Mean: _____

b Median: _____

c Mode: _____

d Range: _____

Unit

15

Mean, Median and Mode (TRB pp. 128–131)
Data representation and interpretation Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data (ACMSP171) **AC**

Describe and interpret data displays using median, mean and range (ACMSP172) **AC**