

I can describe the properties of 2-D shapes and recognise symmetrical polygons.

3 SIDES

triangle

equilateral triangle

isosceles triangle

right-angled triangle

4 SIDES

quadrilateral

square

rectangle

4+ SIDES

5 pentagon

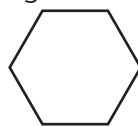
6 hexagon

7 heptagon

8 octagon

CONVEX POLYGON

all angles  $< 180^\circ$



regular hexagon

CONCAVE POLYGON

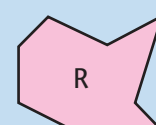
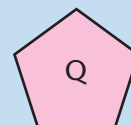
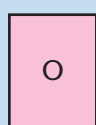
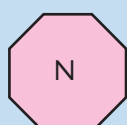
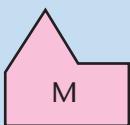
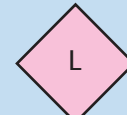
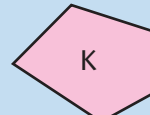
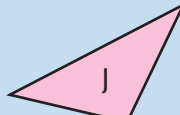
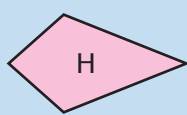
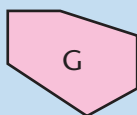
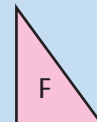
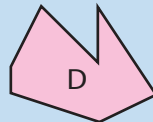
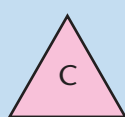
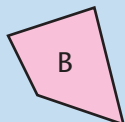
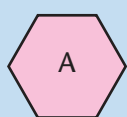
1 angle  $> 180^\circ$



irregular pentagon

## A

1 Write the name of each shape. (e.g. square, regular pentagon, etc.)



2 Which of the above shapes have a right angle?

## B

1 Which of the above shapes A–R are concave?

2 Draw and label:

- a concave pentagon
- a convex pentagon
- a concave quadrilateral
- a convex quadrilateral.

3 Which of the above shapes A–R have one or more lines of symmetry?

4 Copy or trace the symmetrical shapes and draw on the lines of symmetry.

## C

1 Draw a concave quadrilateral with one line of symmetry.

2 Draw a concave hexagon with two lines of symmetry.

3 Draw a concave octagon with

- two lines of symmetry
- four lines of symmetry.

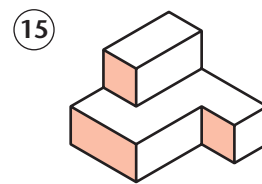
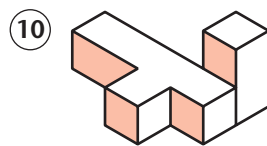
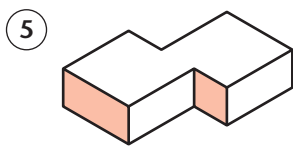
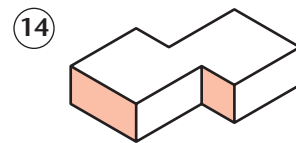
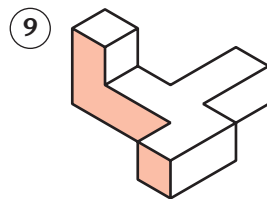
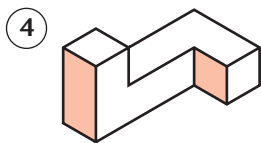
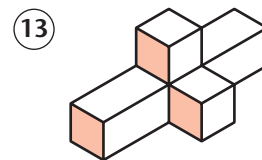
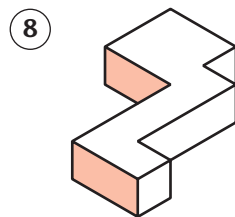
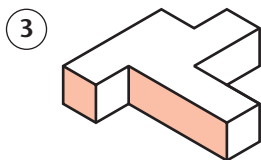
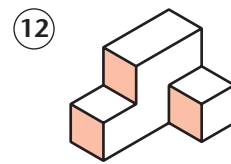
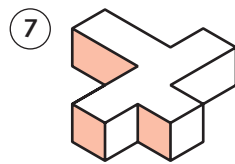
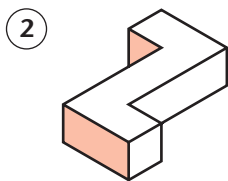
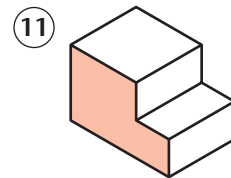
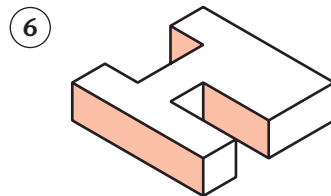
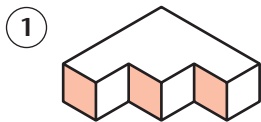
4 Find three examples to match this statement.

*The number of lines of symmetry in a regular polygon is equal to the number of sides of the polygon.*

I can visualise 3-D shapes from 2-D drawings.

## A

Use cubes to build these shapes.



## B

Without using cubes, work out how many cubes are needed to build these shapes.

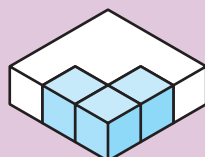
## C

How many more cubes are needed to make each shape into a cuboid?

Examples

① 3 cubes are needed.

② 6 cubes are needed.



I can describe 3-D shapes and make a net of a cuboid.

SHAPES WITH:

CURVED FACES

- sphere
- hemisphere
- cone
- cylinder

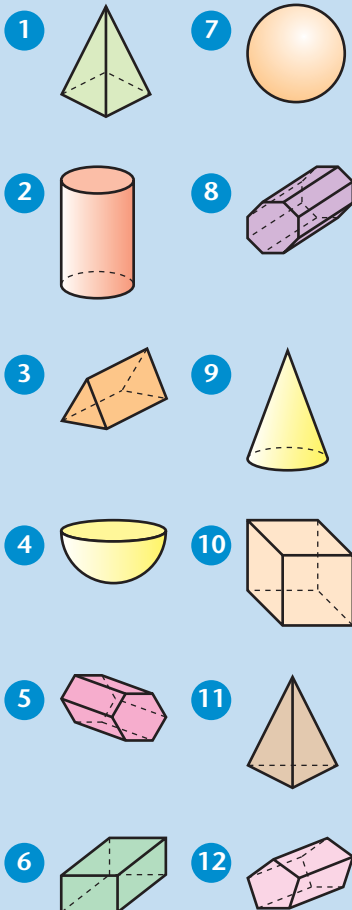
STRAIGHT EDGES

- cube
- cuboid
- triangular based pyramid
- square based pyramid

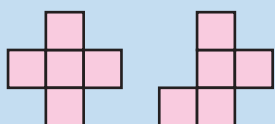
- triangular prism
- pentagonal prism
- hexagonal prism
- octagonal prism

## A

Write the name of each shape.



13 Copy these nets onto squared paper. Cut them out and fold them to make open cubes.



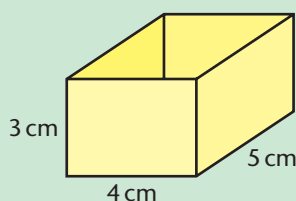
## B

Describe the faces of:

- 1 a triangular based pyramid
- 2 a pentagonal prism
- 3 a cube
- 4 a hexagonal prism.

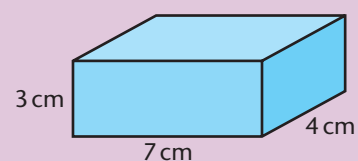
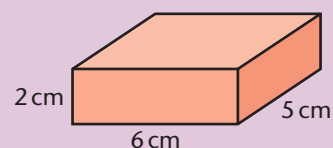
Which 3-D shape has:

- 5 rectangular faces only
- 6 5 vertices
- 7 8 faces
- 8 2 curved edges
- 9 16 vertices
- 10 9 edges?
- 11 Use a set square and a ruler. Draw a net for an open cube with 3 cm edges.
- 12 Draw a net for this open cuboid.



## C

- 1 Which two shapes have 8 vertices?
- 2 Give the names of three shapes with:
  - a) circular faces
  - b) triangular faces
- 3 Name a shape with straight edges which does not have a face with a right angle.
- 4 How many faces are there in:
  - a) an heptagonal pyramid
  - b) an heptagonal prism?
- 5 Construct a net for a closed cube with 2.5 cm edges.
- 6 Construct a net for these closed cuboid.



I can choose and use metric units to measure lengths, weights or capacities.

**Examples**

LENGTH	10 mm = 1 cm	57 mm = 5 cm 7 mm = 5.7 cm
	100 cm = 1 m	130 cm = 1 m 30 cm = 1.3 m
	1000 m = 1 km	2300 m = 2 km 300 m = 2.3 km
WEIGHT	1000 g = 1 kg	1600 g = 1 kg 600 g = 1.6 kg
CAPACITY	1000 ml = 1 litre	2500 ml = 2 l 500 ml = 2.5 l

**A**

Copy and complete.

- 1 200 cm =  m
- 2 150 cm =  m  cm
- 3 3 m =  cm
- 4 5 m 50 cm =  cm
- 5 1000 m =  km
- 6 3500 m =  km  m
- 7 5 km =  m
- 8 4 km 500 m =  m
- 9 3000 g =  kg
- 10 1500 g =  kg  g
- 11 4999 ml =  litres
- 12 2500 ml =  l  ml

Which metric unit would you use to measure:

- 13 the height of a church
- 14 the weight of a phone
- 15 the length of a bus ride
- 16 the capacity of an ocean?



**B**

Copy and complete.

- 1 47 mm =  cm  mm
- 2 24 mm =  cm  mm
- 3 5 cm 9 mm =  mm
- 4 1 cm 1 mm =  mm
- 5 120 cm =  m  cm
- 6 34 cm =  m  cm
- 7 8 m 20 cm =  cm
- 8 6 m 70 cm =  cm
- 9 1600 g =  kg  g
- 10 3200 ml =  l  ml
- 11 1 kg 400 g =  g
- 12 2 l 700 ml =  ml

Which metric unit would you use to measure:

- 13 the capacity of a sponge
- 14 the width of a brick
- 15 the length of a woodlice
- 16 the weight of a bicycle?

Think of two more things you would measure using:

- |       |           |
|-------|-----------|
| 17 mm | 20 litres |
| 18 kg | 21 grams  |
| 19 ml | 22 km     |

**C**

Copy and complete

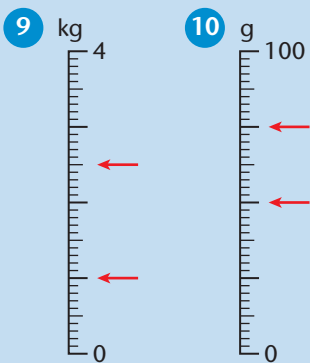
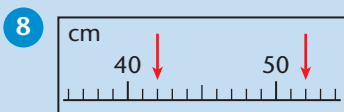
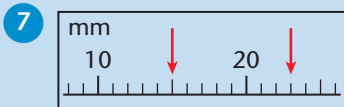
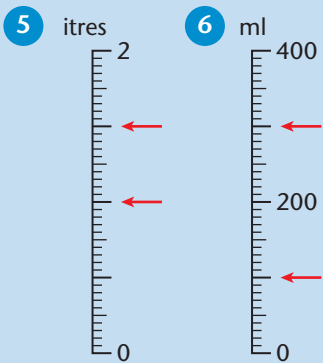
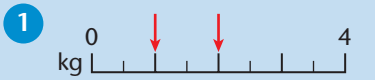
- 1 1.8 cm =  mm
- 2 4.3 cm =  mm
- 3 26 mm =  cm
- 4 32 mm =  cm
- 5 1.15 m =  cm
- 6 0.6 m =  cm
- 7 220 cm =  m
- 8 75 cm =  m
- 9 6300 m =  km
- 10 2700 m =  km
- 11 7.25 km =  m
- 12 5.6 km =  m

Copy the sentence choosing the most sensible estimate.

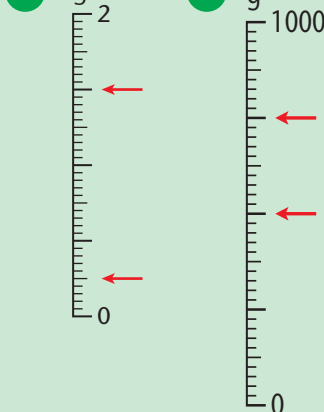
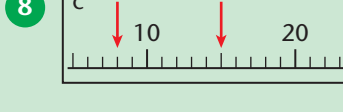
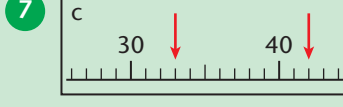
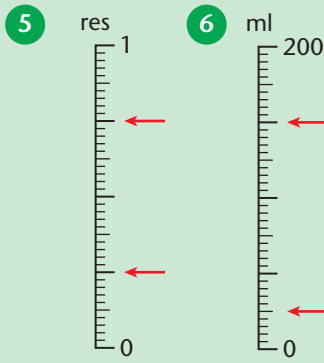
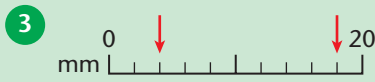
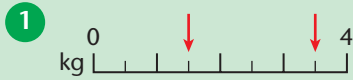
- 13 A baby weighs (30 g, 300 g, 3 kg).
- 14 A saucepan holds (200 ml, 2 litres, 20 litres).
- 15 A balloon weighs (1 g, 10 g, 100 g).
- 16 A match is (5 mm, 50 mm, 50 cm) long.

I can read a scale accurately by counting on from the last numbered interval.  
For each of the scales work out the measurement shown by each arrow.

**A**



**B**



**C**

