

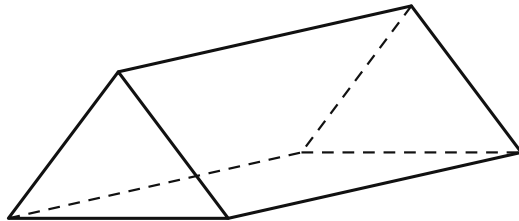
3D Shapes

ANSWERS

Calculator | 30 minutes | Total marks: 26

Name Class

- 1 The diagram shows a triangular prism.



Complete the table.

Faces	Edges	Vertices
5 (1)	9 (1)	6 (1)

[3 marks]

- 2 The net of a solid is made from two circles and a rectangle.

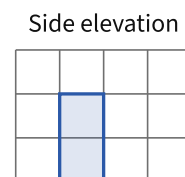
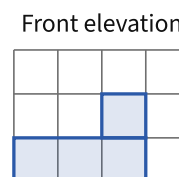
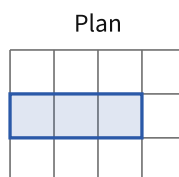
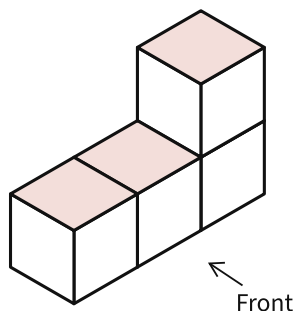
Write down the name of the solid.

Answer cylinder (1)

[1 mark]

- 3 The solid is made from 4 centimetre cubes.

On the centimetre grids, draw the plan, the front elevation and the side elevation of the solid.

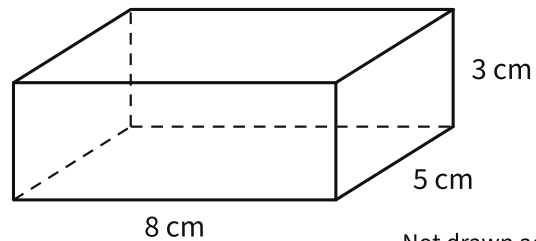


Plan (1) Front elevation (1) Side elevation (1)

[3 marks]

4

(a) Work out the volume of the cuboid.



Not drawn accurately

$$8 \times 5 \times 3 \text{ (1)}$$

Answer 120 (1) cm³ [2 marks](b) A different cuboid has a volume of 240 cm³. Its base is 8 cm by 6 cm.

Work out its height.

$$240 \div 48 \text{ (1)}$$

Answer 5 (1) cm [2 marks]

5

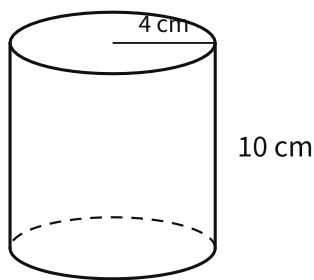
A prism has a cross section with an area of 14 cm² and a length of 9 cm.

Work out the volume of the prism.

$$14 \times 9 \text{ (1)}$$

Answer 126 (1) cm³ [2 marks]

6



Not drawn accurately

Work out the volume of the cylinder.

Give your answer to 1 decimal place.

$$\pi \times 4^2 \times 10 \text{ (1)}$$

$$160\pi \text{ (1)}$$

Answer 502.7 (1) cm³ [3 marks]

7

A cuboid is 6 cm long, 4 cm wide and 2 cm high.

Work out the total surface area of the cuboid.

$$\text{faces } 24, 12 \text{ and } 8 \text{ (1)}$$

$$2 \times (24 + 12 + 8) \text{ (1)}$$

Answer 88 (1) cm² [3 marks]

8

(a) Volume of a sphere = $\frac{4}{3}\pi r^3$

Work out the volume of a sphere with radius 3 cm.

Give your answer to 1 decimal place.

$$\frac{4}{3} \times \pi \times 3^3 \text{ (1)}$$

Answer 113.1 (1) cm³ [2 marks]

(b) Volume of a cone = $\frac{1}{3}\pi r^2 h$

Work out the volume of a cone with radius 3 cm and height 8 cm.

Give your answer in terms of π .

$$\frac{1}{3} \times \pi \times 9 \times 8 \text{ (1)}$$

Answer 24 π (1) cm³ [2 marks]

9

(a) Change 2 m³ into cm³

Answer 2 000 000 (1) cm³ [1 mark]

(b) 1 litre = 1000 cm³

Change 5000 cm³ into litres.

Answer 5 (1) litres [1 mark]

- 10** The lengths of the sides of a cube are doubled.
How many times bigger is the volume of the new cube?

Answer 8 (1)

[1 mark]

Question	Topic	RAG
1	I can count faces, edges and vertices	
2	I can recognise a solid from its net	
3	I can draw plans and elevations	
4	I can find the volume of a cuboid and a missing length	
5	I can find the volume of a prism	
6	I can find the volume of a cylinder	
7	I can find the surface area of a cuboid	
8	I can use the formulas for a sphere and a cone	
9	I can convert units of volume	
10	I know how enlargement affects volume	