

Volume and 3D Shapes

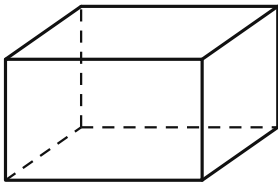
ANSWERS

Calculator | 30 minutes | Total marks: 24

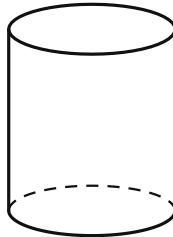
Name

Class

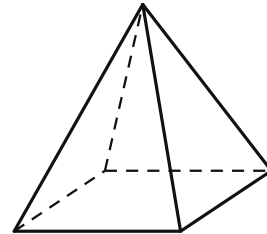
1 Here are three 3D shapes.



A



B



C

Write down the name of each shape.

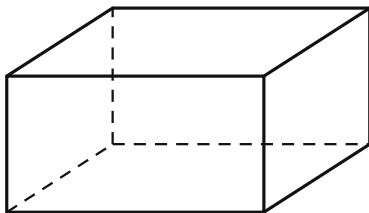
A cuboid (1)

B cylinder (1)

C pyramid (1)

[3 marks]

2 Here is a cuboid.



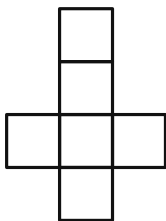
Write down the number of

faces 6 (1) [1 mark]

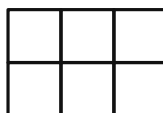
edges 12 (1) [1 mark]

vertices 8 (1) [1 mark]

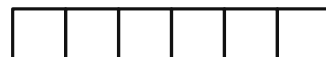
3 Which of these is the net of a cube?



A



B



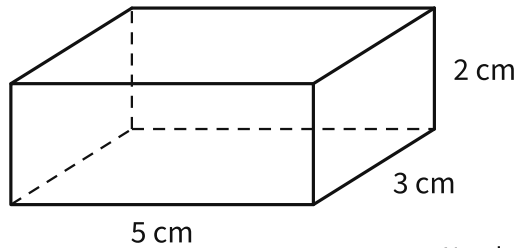
C

Answer A (1)

[1 mark]

4

Work out the volume of this cuboid.



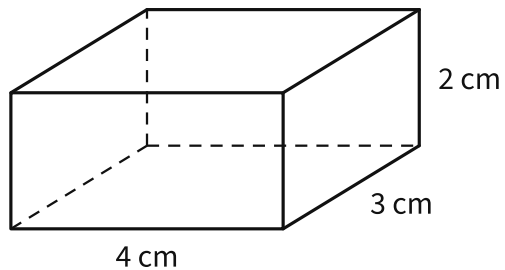
Not drawn accurately

$$5 \times 3 \times 2 \text{ (1)}$$

Answer 30 (1) cm³ [2 marks]

5

Here is a cuboid.



Not drawn accurately

(a) Complete the table.

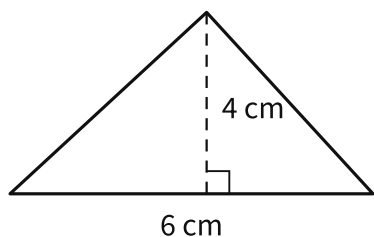
Faces	Area of one face	Area of two faces
Front and back	$4 \times 2 = 8 \text{ cm}^2$	$16 \text{ cm}^2 \text{ (1)}$
Top and bottom	$4 \times 3 = 12 \text{ cm}^2$	$24 \text{ cm}^2 \text{ (1)}$
Two sides	$3 \times 2 = 6 \text{ cm}^2$	$12 \text{ cm}^2 \text{ (1)}$

[3 marks]

(b) Work out the total surface area of the cuboid.

Answer 52 (1) cm² [1 mark]

- 6 Work out the area of this triangle.

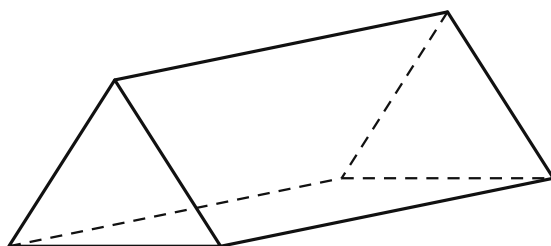


Not drawn accurately

$$\frac{1}{2} \times 6 \times 4 \text{ (1)}$$

Answer 12 (1) cm² [2 marks]

- 7 The cross section of this prism is a triangle with an area of 12 cm²
The prism is 10 cm long.



10 cm

Not drawn accurately

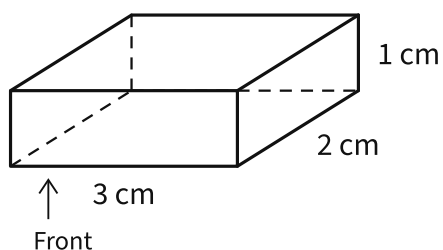
Work out the volume of the prism.

$$12 \times 10 \text{ (1)}$$

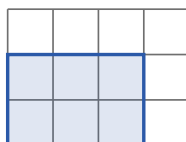
Answer 120 (1) cm³ [2 marks]

- 8 Here is a cuboid.

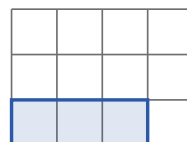
On the centimetre grids, draw the plan, the front elevation and the side elevation of the cuboid.



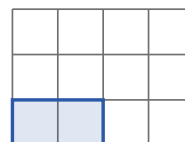
Plan



Front elevation



Side elevation



Plan 3 by 2 (1) Front 3 by 1 (1) Side 2 by 1 (1)

[3 marks]

9

A cuboid has a volume of 60 cm^3

The cuboid is 5 cm long and 4 cm wide.

Work out the height of the cuboid.

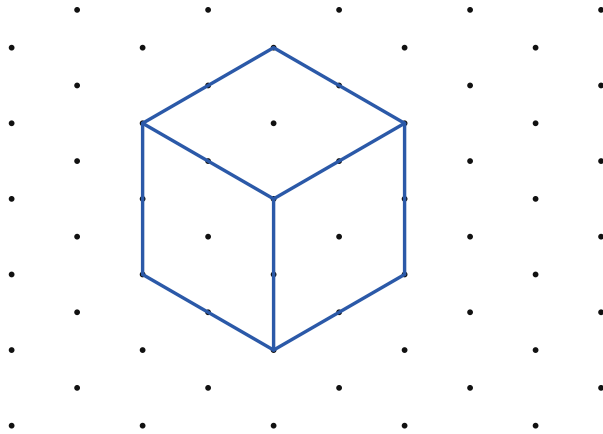
$$5 \times 4 = 20 \text{ (1)}$$

$$60 \div 20$$

Answer 3 (1) cm [2 marks]

10

On the isometric paper, draw a cube with sides of length 2 cm.



One face correct (1) Complete cube (1)

[2 marks]

Question	Topic	RAG
1	I know the names of 3D shapes	
2	I can count faces, edges and vertices	
3	I can recognise the net of a cube	
4	I can find the volume of a cuboid	
5	I can find the surface area of a cuboid	
6	I can find the area of a triangle	
7	I can find the volume of a prism	
8	I can draw a plan and elevations	
9	I can find a missing length from a volume	
10	I can draw a cube on isometric paper	