



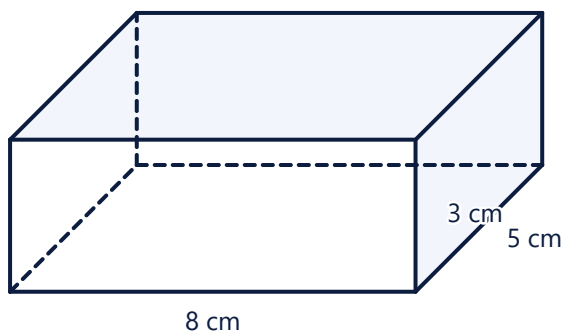
Name: _____

Date: _____

Score: _____ / 58

1 The diagram shows a cuboid.

- Work out the volume of the cuboid.
- Work out the total surface area of the cuboid.



(4 marks)

Answer _____

2 A cube has a volume of 64 cm^3 .

Work out the total surface area of the cube.

(3 marks)

Answer _____

3

- a. A prism has a cross-section with an area of 24 cm^2 . The prism is 15 cm long. Work out the volume of the prism.
- b. Another prism has a volume of 540 cm^3 . Its cross-section has an area of 72 cm^2 . Work out the length of this prism.

(3 marks)

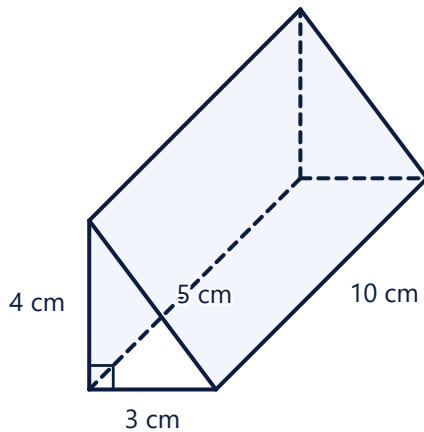
Answer _____

4

The cross-section of a triangular prism is a right-angled triangle with base 3 cm, height 4 cm and hypotenuse 5 cm.

The length of the prism is 10 cm.

Work out the total surface area of the prism.



(3 marks)

Answer _____

5

- a. Change 5 litres to cm^3 .
- b. Change 3 m^3 to cm^3 .
- c. Change 4500 cm^3 to litres.
- d. Change 2.5 cm^3 to mm^3 .

(4 marks)

Answer _____

6

A fish tank is a cuboid with a base measuring 40 cm by 25 cm and a height of 20 cm.

The tank is filled with water to a depth of 15 cm.

All of the water is poured into cups. Each cup holds 250 ml.

Work out the number of cups that can be completely filled.

$$1 \text{ ml} = 1 \text{ cm}^3$$

(4 marks)

Answer _____

7 The cross-section of a prism is an L-shape.

The L-shape is made by starting with a rectangle 12 cm wide and 9 cm tall, then removing a 7 cm by 5 cm rectangle from the top right corner.

The length of the prism is 24 cm.

Show that the volume of the prism is 1752 cm^3 .

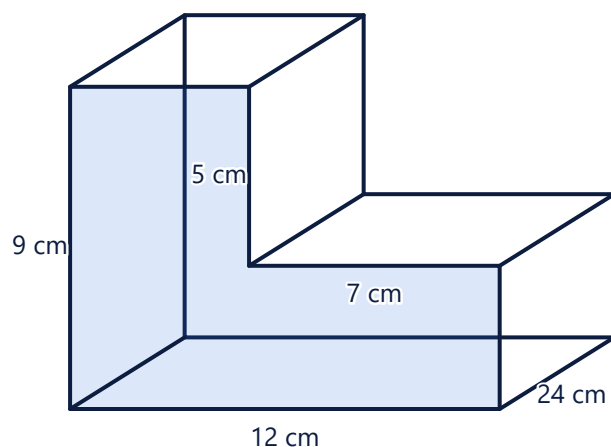


Diagram NOT accurately drawn

(5 marks)

Answer _____

- 8 A skip is a prism. Its cross-section is a trapezium.

The diagram shows the measurements of the skip.

- Work out the volume of the skip.
- Callum fills the skip with garden rubbish. Each wheelbarrow load is 0.25 m^3 . How many wheelbarrow loads fill the skip?

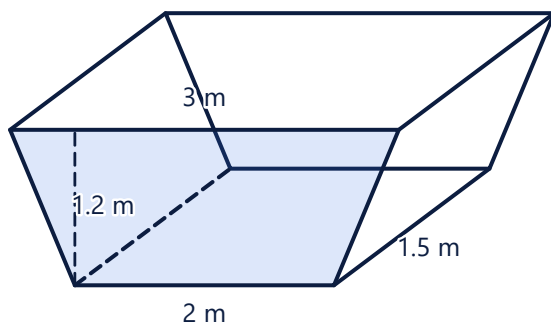


Diagram NOT accurately drawn

(4 marks)

Answer _____

- 9 A water tank is a cuboid measuring 1.5 m by 0.8 m by 0.6 m.

The tank is empty. Dev fills the tank completely with water.

Water costs £1.25 for every 100 litres.

Work out the cost of the water needed to fill the tank.

$$1 \text{ m}^3 = 1000 \text{ litres}$$

(5 marks)

Answer _____

- 10 A cuboid has a square base of side 5 cm and height h cm.

The total surface area of the cuboid is 190 cm^2 .

Work out the volume of the cuboid.

(5 marks)

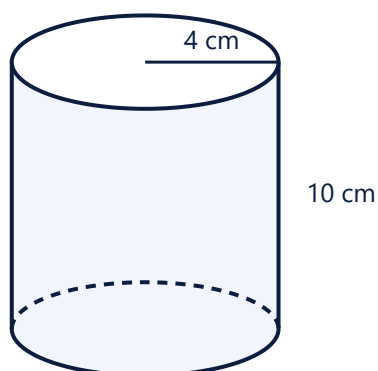
Answer _____

EXTENSION QUESTIONS

- 11 The diagram shows a solid cylinder with radius 4 cm and height 10 cm.

- Work out the volume of the cylinder. Give your answer in terms of π .
- Work out the total surface area of the cylinder. Give your answer in terms of π .
- A sphere has radius 3 cm. Work out its volume and its surface area. Give your answers in terms of π .

Volume of a sphere = $\frac{4}{3}\pi r^3$ Surface area of a sphere = $4\pi r^2$



(5 marks)

Answer _____

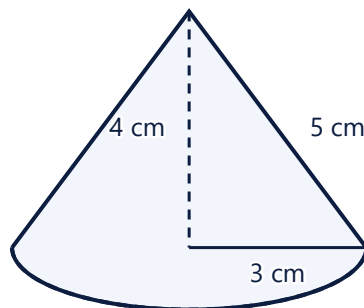
- 12 A cylinder has a volume of 1500 cm^3 and a radius of 6 cm.
Work out the height of the cylinder.
Give your answer correct to 1 decimal place.

(4 marks)

Answer _____

EXTENSION QUESTIONS

- 13 a. A square-based pyramid has a base of side 6 cm and a vertical height of 10 cm. Work out the volume of the pyramid.
Volume of a pyramid = $\frac{1}{3} \times \text{area of base} \times \text{height}$
- b. The diagram shows a solid cone with base radius 3 cm, vertical height 4 cm and slant height 5 cm.
Work out the volume and the total surface area of the cone. Give your answers in terms of π .
Volume of a cone = $\frac{1}{3}\pi r^2 h$ Curved surface area of a cone = $\pi r l$



(5 marks)

Answer _____

14

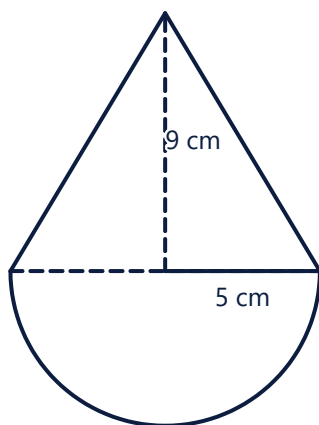
A solid is made from a cone and a hemisphere.

The cone has base radius 5 cm and vertical height 9 cm.

The flat face of the hemisphere, of radius 5 cm, is joined to the base of the cone.

Work out the total volume of the solid.

Give your answer correct to 3 significant figures.



Central vertical cross-section

Diagram NOT accurately drawn

(4 marks)

Answer _____

End of questions | Total 58 marks