

Volume of Cuboids and Prisms

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **24**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** A cube has a volume of 125 cm^3
Write down the length of one edge.

..... cm
(1)

(Total for Question 1 is 1 mark)

- 2** Here is a cuboid.

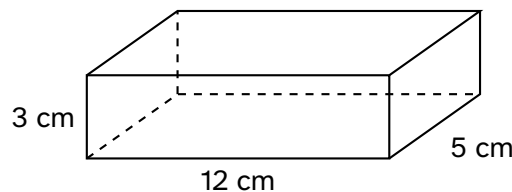


Diagram **NOT** accurately drawn

Work out the volume of the cuboid.

..... cm^3
(2)

(Total for Question 2 is 2 marks)

- 3 A prism has a volume of 2700 cm^3 and a length of 15 cm .
Work out the area of the cross-section of the prism.

..... cm^2
(2)

(Total for Question 3 is 2 marks)

- 4 The cross-section of this prism is a right-angled triangle.

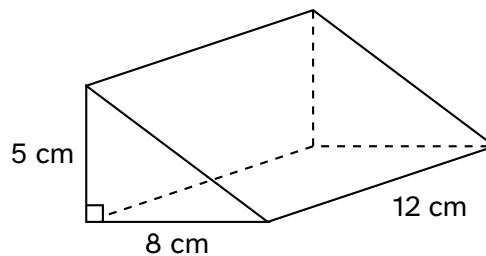


Diagram **NOT** accurately drawn

Work out the volume of the prism.

..... cm^3
(3)

(Total for Question 4 is 3 marks)

- 5 The diagram shows a cuboid.
The base of the cuboid is a square of side x cm.
The height of the cuboid is 10 cm.
The volume of the cuboid is 490 cm^3

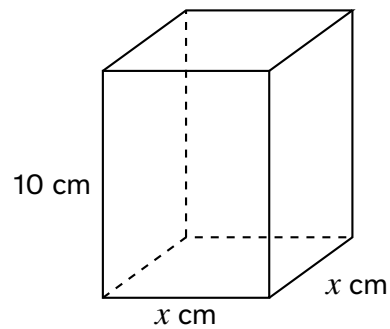


Diagram **NOT** accurately drawn

Work out the value of x .

.....

(3)

(Total for Question 5 is 3 marks)

- 6 A water trough is a prism 150 cm long.
Its cross-section is a trapezium.
1 litre = 1000 cm³

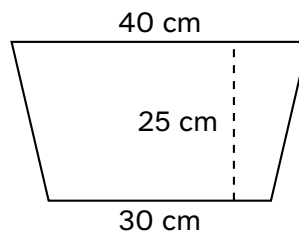


Diagram **NOT** accurately drawn

Work out how many litres of water the trough holds when it is full.

..... litres
(4)

(Total for Question 6 is 4 marks)

- 7 A fish tank is in the shape of a cuboid.
The tank contains water to a depth of 12 cm.
1 litre = 1000 cm³

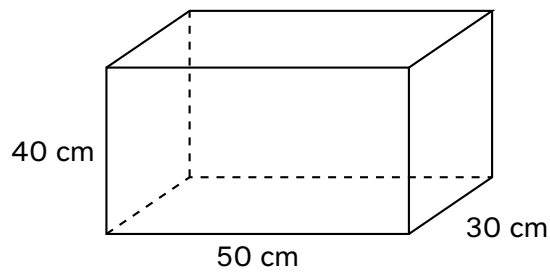


Diagram **NOT** accurately drawn

Mia pours another 9 litres of water into the tank.
Work out the new depth of the water.

..... cm
(4)
(Total for Question 7 is 4 marks)

- 8** A company packs soaps into boxes.
Each soap is a cube with edges of 4 cm.
Each box is a cuboid 20 cm long, 18 cm wide and 12 cm high.

(a) Work out the greatest number of soaps that will fit into one box.

.....
(2)

(b) The company needs to send 1000 soaps.
How many boxes does it need?

.....
(2)

(c) Kareem says,
“The volume of the box is 4320 cm^3 and the volume of a soap is 64 cm^3 .
 $4320 \div 64 = 67.5$, so 67 soaps will fit into one box.”
Explain why Kareem is wrong.

.....
.....
(1)

(Total for Question 8 is 5 marks)