

Cylinders

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

Name _____

Total marks: **25**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

1 Here is a solid cylinder.

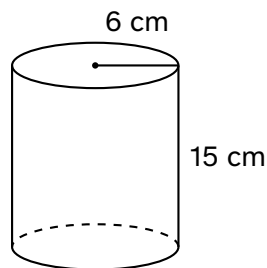


Diagram **NOT** accurately drawn

Work out the volume of the cylinder.
Give your answer correct to 1 decimal place.

..... cm³
(2)

(Total for Question 1 is 2 marks)

2 Here is a cylinder.

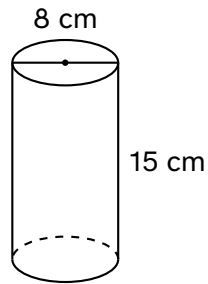


Diagram **NOT** accurately drawn

The cylinder has diameter 8 cm and height 15 cm.
Work out the volume of the cylinder.
Give your answer in terms of π .

..... cm^3
(2)

(Total for Question 2 is 2 marks)

- 3 A closed cylindrical can has diameter 6 cm and height 9 cm.

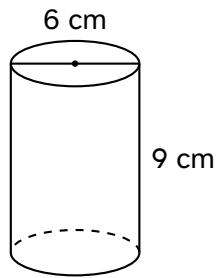


Diagram **NOT** accurately drawn

Work out the total surface area of the can.
Give your answer correct to 1 decimal place.

..... cm²
(3)

(Total for Question 3 is 3 marks)

- 4 A cylinder has a volume of 800 cm³ and a height of 10 cm.
Work out the radius of the cylinder.
Give your answer correct to 3 significant figures.

..... cm
(3)

(Total for Question 4 is 3 marks)

- 5 The diagram shows a block of cheese in the shape of a cylinder.
The cylinder has radius 6 cm and height 8 cm.
The density of the cheese is 1.1 g/cm^3

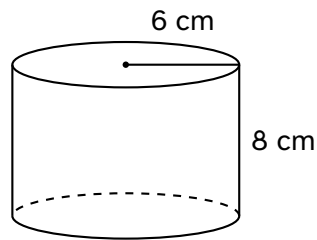


Diagram **NOT** accurately drawn

Work out the mass of the cheese.
Give your answer correct to 3 significant figures.

..... g
(3)

(Total for Question 5 is 3 marks)

- 6 A cylinder with radius 5 cm and height 20 cm is full of water.
All the water is poured into an empty tank in the shape of a cuboid.
The base of the tank is 30 cm by 20 cm.

Work out the depth of the water in the tank.
Give your answer correct to 1 decimal place.

..... cm
(4)

(Total for Question 6 is 4 marks)

- 7 A water butt is in the shape of a cylinder.
It has radius 30 cm and height 90 cm.
The water butt is full of water.
Water is drained out of the water butt at a rate of 4 litres per minute.
1 litre = 1000 cm³

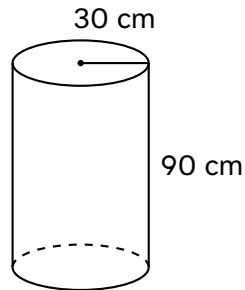


Diagram **NOT** accurately drawn

Work out the depth of the water left in the water butt after 20 minutes.
Give your answer correct to 1 decimal place.
You must show all your working.

..... cm
(4)

(Total for Question 7 is 4 marks)

- 8 Ayesha fills plant pots with a mixture of compost and sand. Each pot is a cylinder with radius 12 cm and height 25 cm. She fills 20 pots completely. The mixture is compost and sand in the ratio 4:1 by volume. Compost is sold in 50-litre bags. 1 litre = 1000 cm³

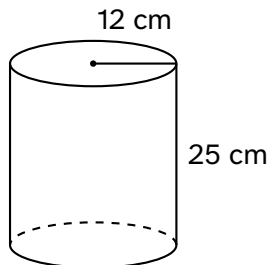


Diagram **NOT** accurately drawn

How many bags of compost does Ayesha need to buy?
You must show how you get your answer.

.....
(4)

(Total for Question 8 is 4 marks)
