



Name: _____ **Date:** _____ **Score:** _____ / 52

- 1** A cylinder has a radius of 5 cm and a height of 12 cm.

Work out the volume of the cylinder.

Give your answer correct to 3 significant figures.

(3 marks)

Answer _____

- 2** A cylindrical tin has a diameter of 8 cm and a height of 10 cm.

Work out the volume of the tin.

Give your answer correct to 3 significant figures.

(3 marks)

Answer _____

- 3** A solid cylinder stands on a table.

Looking down from above (the plan), the cylinder looks like a circle with diameter 10 cm.

Looking from the front (the elevation), the cylinder looks like a rectangle 10 cm wide and 14 cm tall.

Work out the volume of the cylinder. Give your answer correct to 3 significant figures.

(3 marks)

Answer _____

- 4** A cylindrical water butt has a radius of 25 cm and a height of 80 cm.
Work out the number of litres of water the water butt holds when it is full.
Give your answer to the nearest litre.

$$1 \text{ litre} = 1000 \text{ cm}^3$$

(4 marks)

Answer _____

- 5** A solid cylinder has a radius of 6 cm and a height of 5 cm.
a. Work out the volume of the cylinder. Give your answer in terms of π .
b. Work out the total surface area of the cylinder. Give your answer in terms of π .

(4 marks)

Answer _____

- 6** A tunnel is in the shape of half a cylinder lying on its flat face. The semicircular ends have radius 3 m and the tunnel is 20 m long.

Work out the volume of the tunnel. Give your answer in terms of π .

(3 marks)

Answer _____

- 7** A cylindrical tank has a radius of 30 cm and a height of 100 cm.
The tank is empty.
Water flows into the tank at a rate of 20 litres per minute.
Work out how long it takes to fill the tank completely.
Give your answer in minutes, correct to 1 decimal place.

$$1 \text{ litre} = 1000 \text{ cm}^3$$

(4 marks)

Answer _____

- 8** A metal pipe is a hollow cylinder 50 cm long. The outer radius of the pipe is 5 cm and the inner radius is 4 cm.

Work out the volume of metal used to make the pipe. Give your answer correct to 3 significant figures.

(4 marks)

Answer _____

- 9** A cylindrical can has a diameter of 7 cm and a height of 11 cm.

Soup is poured from a large pot containing 20 litres into the cans, filling each one completely.

Work out the greatest number of cans that can be filled completely.

$$1 \text{ litre} = 1000 \text{ cm}^3$$

(4 marks)

Answer _____

- 10** 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 _____

- 11** A solid metal cylinder has radius 6 cm and height 10 cm. It is melted down and recast into a solid cylinder of radius 3 cm.

Work out the height of the new cylinder.

(3 marks)

Answer _____

- 12** A cylinder has a volume of 2000 cm^3 and a height of 15 cm.
Work out the radius of the cylinder.
Give your answer correct to 1 decimal place.

(4 marks)

Answer _____

- 13** A solid metal cylinder has radius 2 cm and height 10 cm.
The density of the metal is 8 g/cm^3 .
Work out the mass of the cylinder. Give your answer correct to 3 significant figures.

(4 marks)

Answer _____

- 14** A cylindrical drinks dispenser has a radius of 20 cm and a height of 50 cm.
Priya wants to fill the dispenser completely with squash.
Squash is made by mixing cordial and water in the ratio 1 : 9 by volume.
Priya has 5.5 litres of cordial and an unlimited supply of water.
Does Priya have enough cordial to fill the dispenser? You must show your working.
1 litre = 1000 cm^3

(5 marks)

Answer _____

End of questions | Total 52 marks