

Name: _____

GCSE (1 – 9)

Cylinders

Instructions

- Use **black** ink or ball-point pen.
- Answer all Questions.
- Answer the Questions in the spaces provided
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

Information

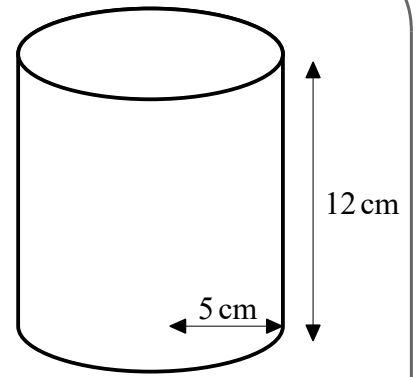
- The marks for each Question are shown in brackets
– *use this as a guide as to how much time to spend on each Question.*

Advice

- Read each Question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every Question.
- Check your answers if you have time at the end

- 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 in terms of π .

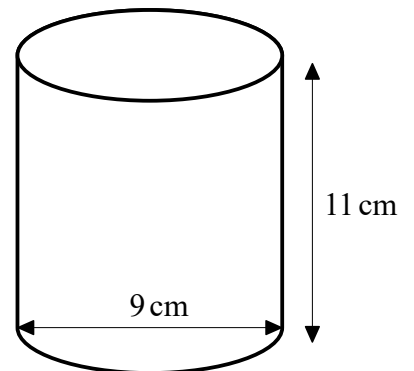


..... cm³

(Total for Question 1 is 3 marks)

- 2 A cylinder has a diameter of 9 cm and a height of 11 cm.

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

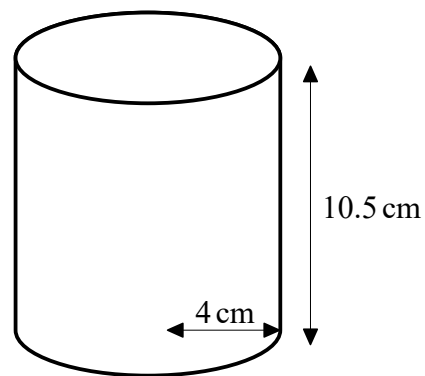


..... cm³

(Total for Question 2 is 3 marks)

- 3 A solid cylinder has a radius of 4 cm and a height of 10.5 cm.

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

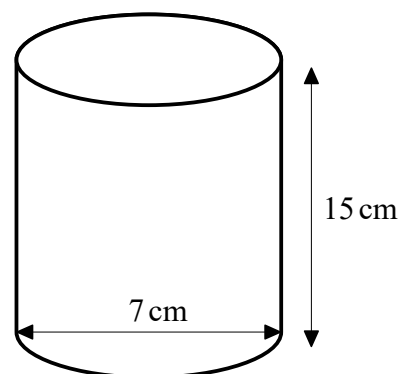


..... cm²

(Total for Question 3 is 3 marks)

- 4 A solid cylinder has a diameter of 7 cm and a height of 15 cm.

Work out the total surface area of the cylinder.
Give your answer correct to 3 significant figures.



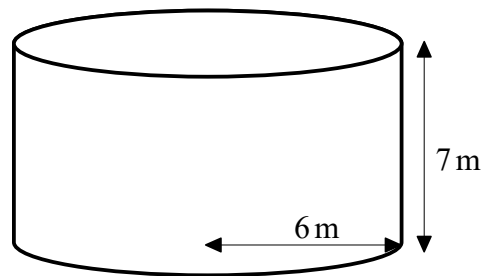
..... cm²

(Total for Question 4 is 3 marks)

- 5 A solid cylinder has a radius of 6 m and a height of 7 m.

Work out the total surface area of the cylinder.

Give your answer in terms of π .

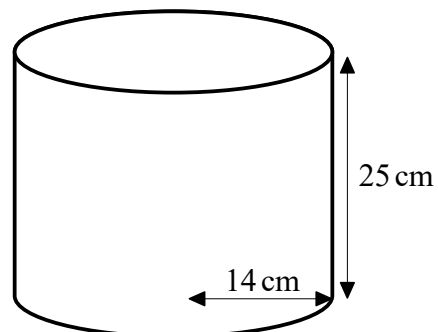


.....
(Total for Question 5 is 4 marks)

- 6 A solid cylinder has a radius of 14 cm and a height of 25 cm.

Work out the volume of the cylinder.

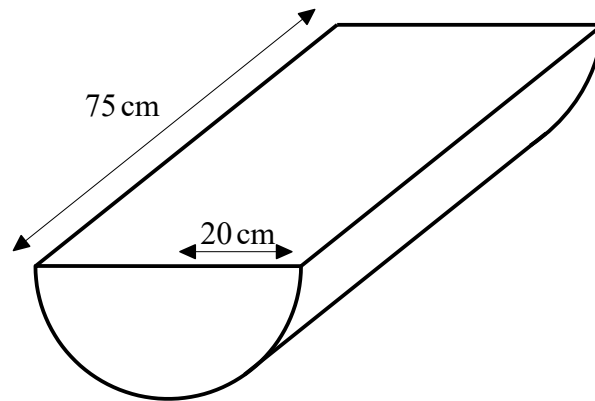
Give your answer correct to 3 significant figures.



.....
(Total for Question 6 is 4 marks)

7

A solid cylinder is cut in half to form a semi-cylinder with a radius of 20 cm and a length of 75 cm.



- (a) Work out the volume of the semi-cylinder.
Give your answer correct to 3 significant figures.

.....cm³
(3)

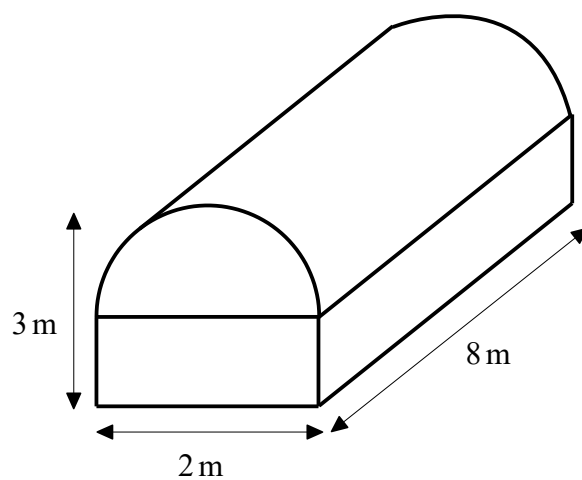
- (b) Work out the total surface area of the semi-cylinder.
Give your answer correct to 3 significant figures.

.....cm²
(3)

(Total for Question 7 is 6 marks)

8

A solid is formed by placing a half cylinder on a rectangular prism. The solid has a width of 2 m, a total height of 3 m and a length of 8 m.

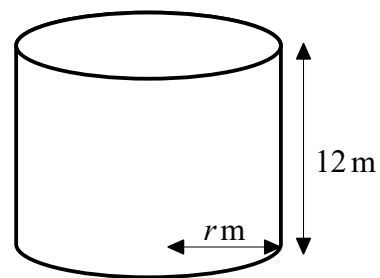


Work out the volume of the solid.
Give your answer correct to 3 significant figures.

.....m³

(Total for Question 8 is 4 marks)

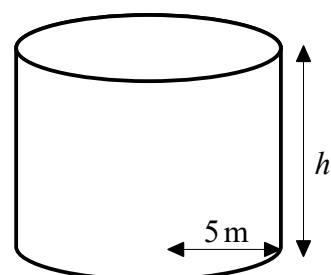
- 9 A solid cylinder has a radius of r m and a height of 12 m.
The volume of the cylinder is $507\pi \text{ m}^3$.
Find the value of r .



$$r = \dots\dots\dots$$

(Total for Question 9 is 4 marks)

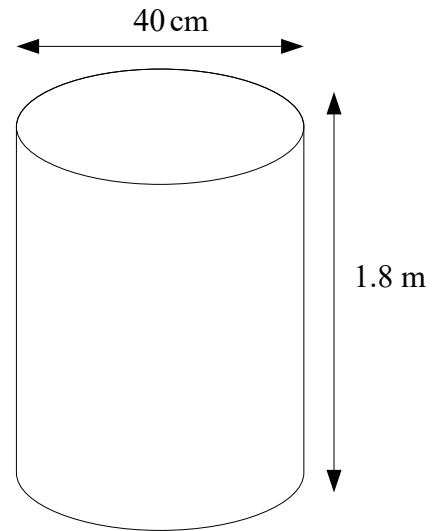
- 10 A solid cylinder has a radius of 5 m and a height of h m.
The total surface area of the cylinder is $165\pi \text{ m}^2$.
Find the value of h .



$$h = \dots\dots\dots$$

(Total for Question 10 is 4 marks)

- 11** The diagram shows a cylindrical tank.
The tank has a top and a bottom.
- 5 of these tanks are going to be painted.
Each tank has a diameter of 40 cm and a height of 1.8 m.
- Each pot of paint can cover 4 m^2 .
- How many pots of paint are needed to paint the 5 tanks?

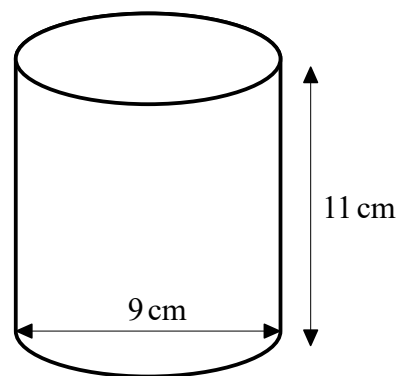


.....pots

(Total for Question 11 is 4 marks)

2 A cylinder has a diameter of 9 cm and a height of 11 cm.

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



.....cm³
(2)

(b) The volume of another cylinder is 1500 cm².
Michael says that 1500cm² is the same as 15 m².

Is Michael correct?
You must give a reason for your answer.

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

(Total for Question 2 is 4 marks)