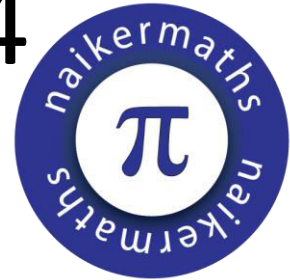


Name:.....

Total Marks:.....

# GCSE (9-1) Grade 4

## Volume and Surface Area of Cylinder



### Instructions

Use **black** ink or ball-point pen.

**Fill in the boxes** at the top of this page with your name.

Answer **all** questions.

Answer the questions in the spaces provided

– there may be more space than you need.

**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.

Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed

### Advice

Read each question carefully before you start to answer it

Attempt every question

Check your answers if you have time at the end

1.

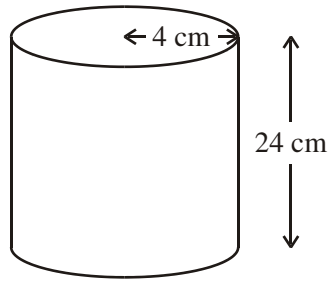


Diagram **NOT** accurately drawn

A cylinder has a height of 24 cm and a radius of 4 cm.

Work out the volume of the cylinder.

Give your answer correct to 3 significant figures.

.....  $\text{cm}^3$   
(Total 2 marks)

2. A can of drink is in the shape of a cylinder.  
The can has a radius of 4 cm and a height of 15 cm.

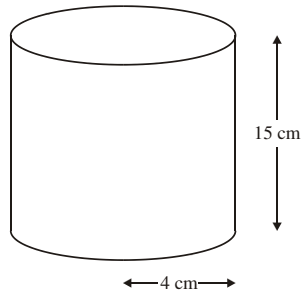


Diagram **NOT**  
accurately drawn

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

.....  
(Total 3 marks)

- 3.

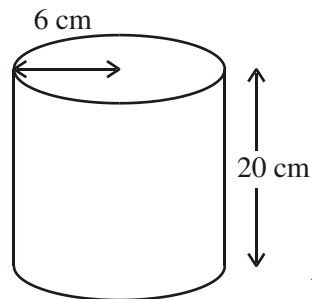


Diagram **NOT** accurately drawn

A solid cylinder has a radius of 6 cm and a height of 20 cm.

Calculate the volume of the cylinder.

Give your answer correct to 3 significant figures.

..... cm<sup>3</sup>  
(Total 2 marks)

4.

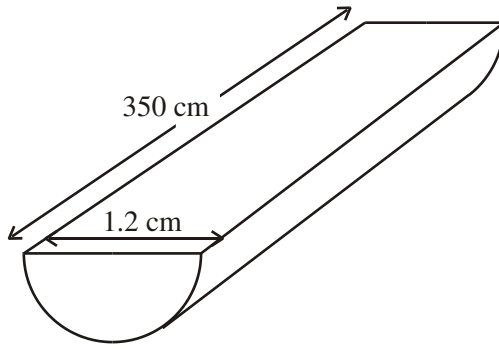


Diagram **NOT** accurately drawn

The diagram shows a piece of wood.

The piece of wood is a prism of length 350 cm.

The cross-section of the prism is a semi-circle with diameter 1.2 cm.

Calculate the volume of the piece of wood.

Give your answer correct to 3 significant figures.

..... cm<sup>3</sup>  
(Total 4 marks)

5.

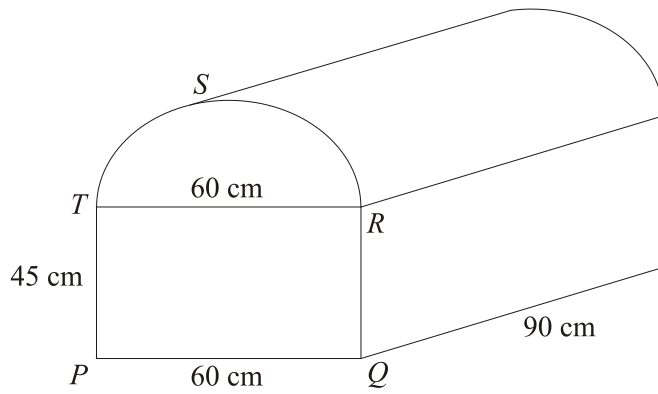


Diagram **NOT** accurately drawn

The diagram shows a prism of length  $90\text{ cm}$ .

The cross section,  $PQRST$ , of the prism is a semi-circle above a rectangle.

$PQRT$  is a rectangle.

$RST$  is a semi-circle with diameter  $RT$ .

$PQ = RT = 60\text{ cm}$ .

$PT = QR = 45\text{ cm}$ .

Calculate the volume of the prism.

Give your answer correct to 3 significant figures.

State the units of your answer.

.....  
(Total 5 marks)

6.

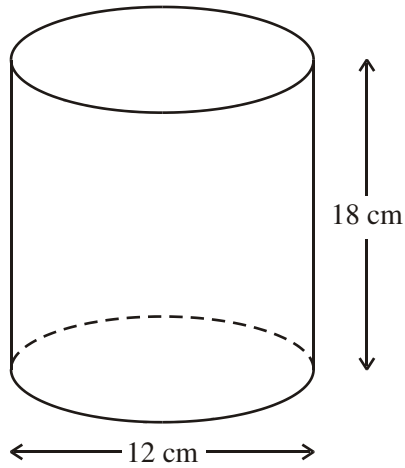


Diagram **NOT** accurately drawn

The diagram shows a solid cylinder.  
The cylinder has a diameter of 12 cm and a height of 18 cm.

Calculate the **total** surface area of the cylinder.  
Give your answer correct to 3 significant figures.

..... cm<sup>2</sup>  
(Total 4 marks)

7.

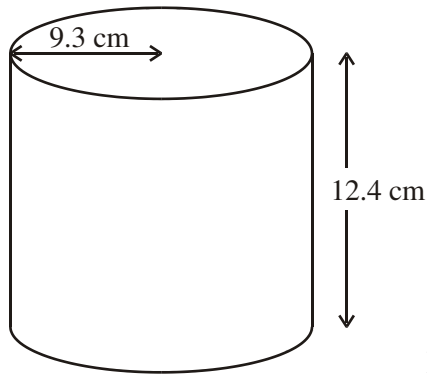


Diagram **NOT** accurately drawn

The diagram shows a solid cylinder.  
The radius of the cylinder is 9.3 cm.  
Its height is 12.4 cm.

Calculate the **total** surface area of the cylinder.  
Give your answer correct to 3 significant figures.

..... cm<sup>2</sup>  
(Total 4 marks)

8.

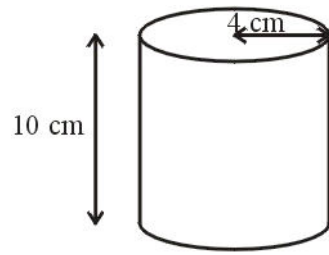


Diagram **NOT** accurately drawn

The diagram shows a cylinder with a height of 10 cm and a radius of 4 cm.

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

.....

**(3)**

The cylinder is solid.

- (b) Calculate the **total** surface area of the cylinder.  
Give your answer correct to 3 significant figures.

.....

**(3)**

**(Total 6 marks)**