Name:

Date:

Surface Area of Prisms and Cylinders

GCSE

Edexcel

Mathematics

Grade (9-1)

Mark	Score (%)
53	

Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

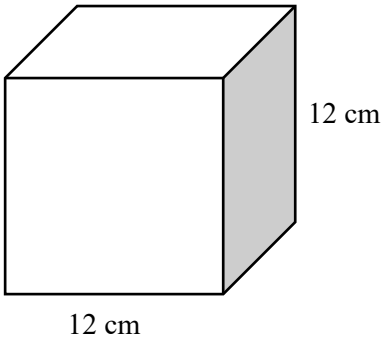
- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

Leave blank

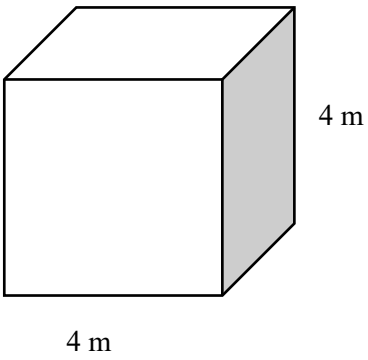
1 Calculate the total surface area of a cube with sides of length 12 cm.



..... cm^2

(Total for question 1 is 2 marks)

2 Calculate the surface area of a cube with sides of length 4 m.

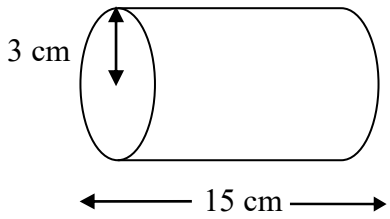


..... cm^2

(Total for question 2 is 2 marks)

Leave blank

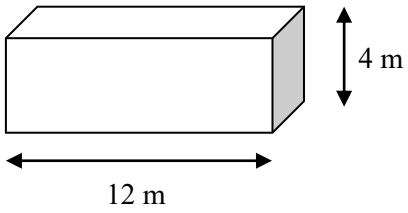
3 Calculate the total surface area of a cylinder with base of radius 3 cm and height 15 cm.
Give your answer in terms of π.



..... cm^2

(Total for question 3 is 3 marks)

4 Find the surface area of a cuboid with a square base with sides of length 4 cm and height 12 cm.

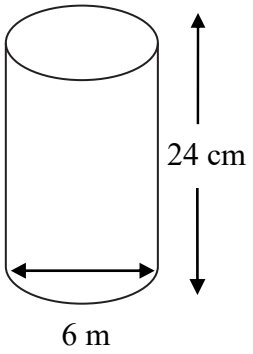


..... cm^2

(Total for question 4 is 3 marks)

Leave blank

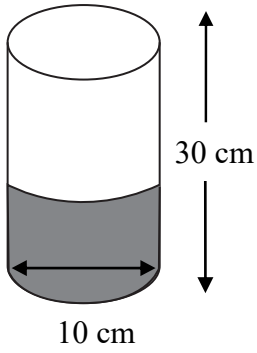
5 Calculate the surface area of a cylinder with base of diameter 6 m and height 24 m.
Give your answer in terms of π.



..... cm^2

(Total for question 5 is 3 marks)

6 Given that the cylinder is 1/3 filled with water, calculate the surface area of the cylinder in contact with water.
Give your answer correct to 3 significant figures.

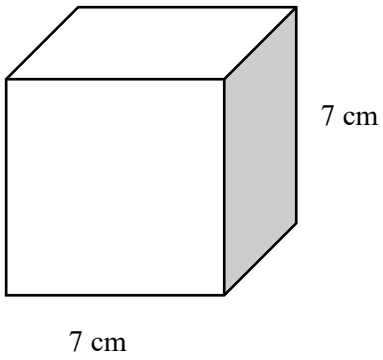


..... cm^2

(Total for question 6 is 3 marks)

Leave blank

7 Calculate the surface area of a cube with length of each side 7 cm..



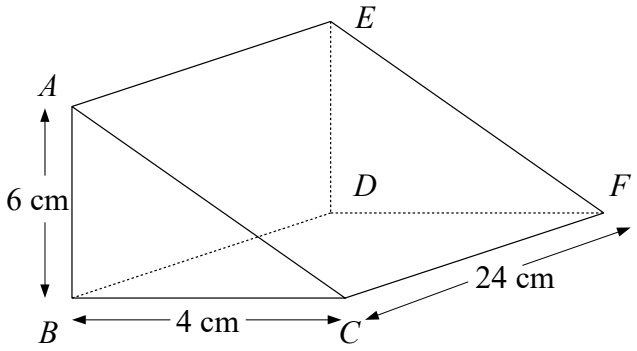
..... cm^2

(Total for question 7 is 2 marks)

8 A barn is shaped liked a prism.

$AB = 6$ cm
$BC = 4$ cm
$CF = 24$ cm

Calculate the surface area of the prism.

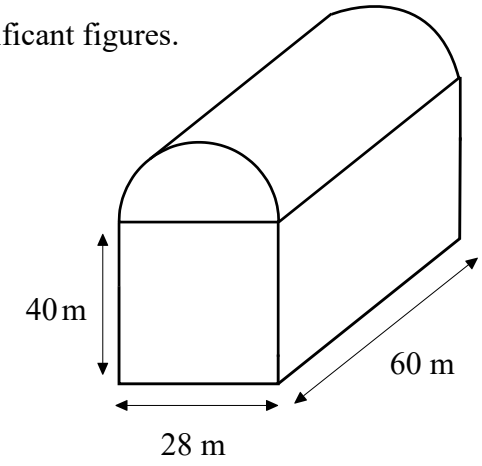


..... cm^2

(Total for question 8 is 4 marks)

Leave blank

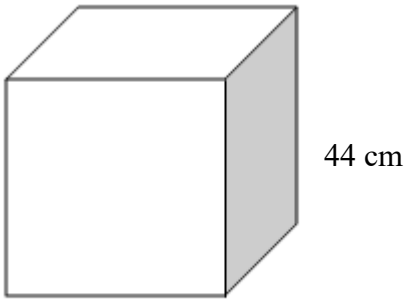
9 The diagram shows a barn shape liked a prism.
The cross section is shaped like a semicircle above a prism.
Calculate the total surface area of the barn correct to 3 significant figures.



..... cm^2

(Total for question 9 is 4 marks)

10 A cubical tank has sides of length 44 cm.
Calculate the area in m^2 of the tank.

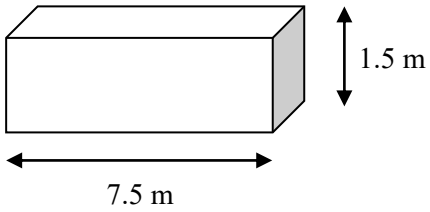


..... m^2

(Total for question 10 is 2 marks)

Leave blank

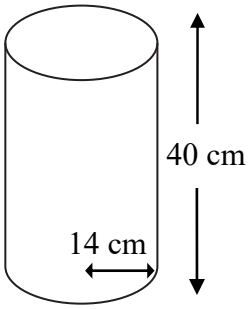
11 Find the surface area of a cuboid with a square base with sides of length 7.5 m and height 1.5 m.



..... m^2

(Total for question 11 is 2 marks)

12 All dimensions are given in cm.
Find the total surface area of the cylinder.
Give your answer in terms of π.



..... cm^2

(Total for question 12 is 3 marks)

Leave blank

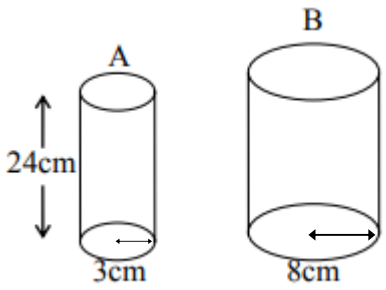
13 A large rectangular conference room has the following dimensions:
Length = 12 m
Breadth = 9 m
Height = h
Given that the surface area of the room is 318 m^2, find h.

h =..... m

(Total for question 13 is 3 marks)

14 Cylinder A is painted on all surfaces with black paint.
The same amount of paint is used to paint Cylinder B.
When the cylinders were being painted, the bottom face was painted first, then the curved area, then the top.

Find the height of cylinder B.

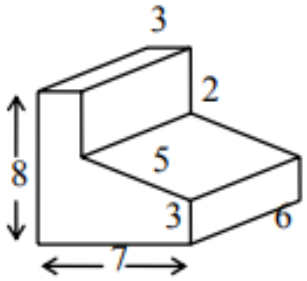


..... cm

(Total for question 14 is 4 marks)

Leave blank

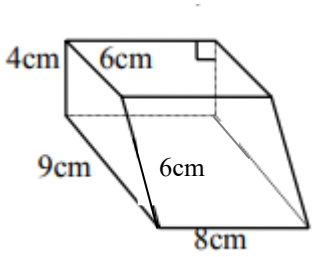
15 In the figure, all dimensions are given in cm.
Find the surface area of the prism.



..... m^2

(Total for question 15 is 4 marks)

16 The figure shows a solid with a trapezium as its area of cross-section.
The lengths of the parallel sides are 6 cm and 9 cm respectively.
The height of the base is 4 cm.
Find the surface area of the prism.



..... cm^2

(Total for question 16 is 3 marks)

17 A tank 1.1 m long, 60 cm wide and 40 cm high is painted with blue paint.
What is the total surface area coated with blue paint?

Leave blank

..... cm^2

(Total for question 17 is 3 marks)

18 The height of mercury in a glass cylinder is 21 cm.
If the base has a radius of 1.5 cm, calculate the total surface area of the glass cylinder in contact with mercury.

..... cm^2

(Total for question 18 is 4 marks)