



EXAM PAPERS PRACTICE

GCSE OCR Math J560

3D Shapes

Question Paper

*"We will help you to
achieve A Star "*



Question 1

The diagram shows a prism.

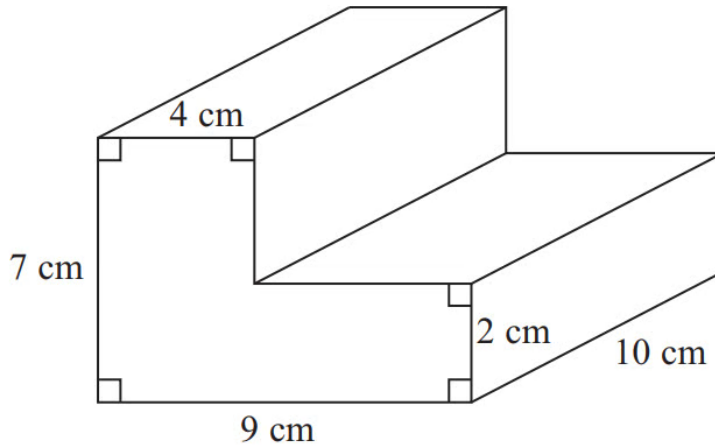


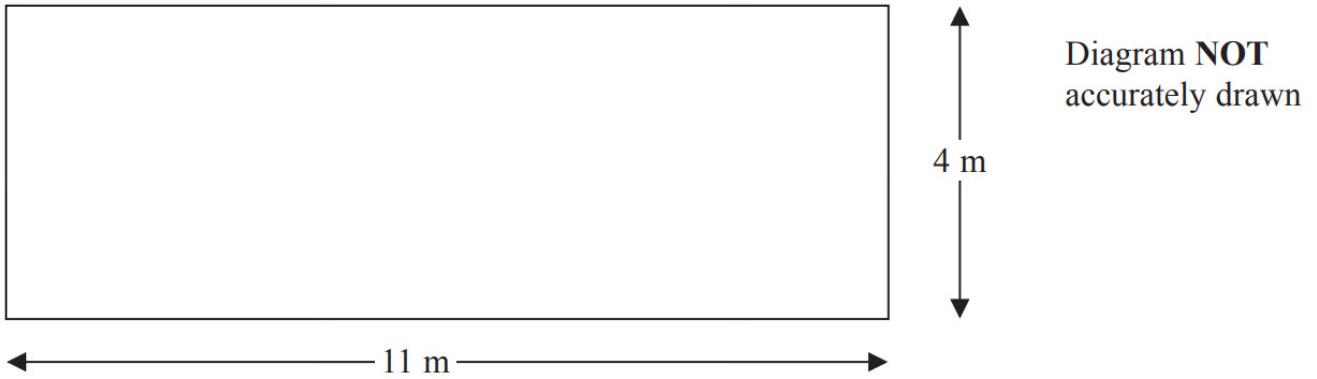
Diagram **NOT** accurately drawn

Work out the volume of the prism.

[3 marks]

Question 2

Here is a plan of Martin's driveway.



Martin is going to cover his driveway with gravel.
The gravel will be 6 cm deep.

Gravel is sold in bags.
There are 0.4 m^3 of gravel in each bag.
Each bag of gravel costs £38

Martin gets a discount of 30% off the cost of the gravel.

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Work out the total amount of money Martin pays for the gravel.



Question 3

Here is a cuboid.

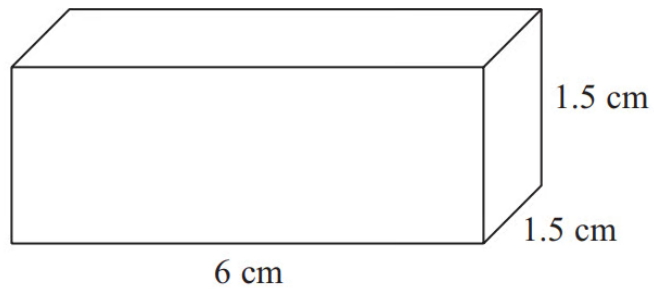


Diagram **NOT**
accurately drawn

The cuboid is 6 cm by 1.5 cm by 1.5 cm.

Work out the total surface area of the cuboid.

[3 marks]



Question 4

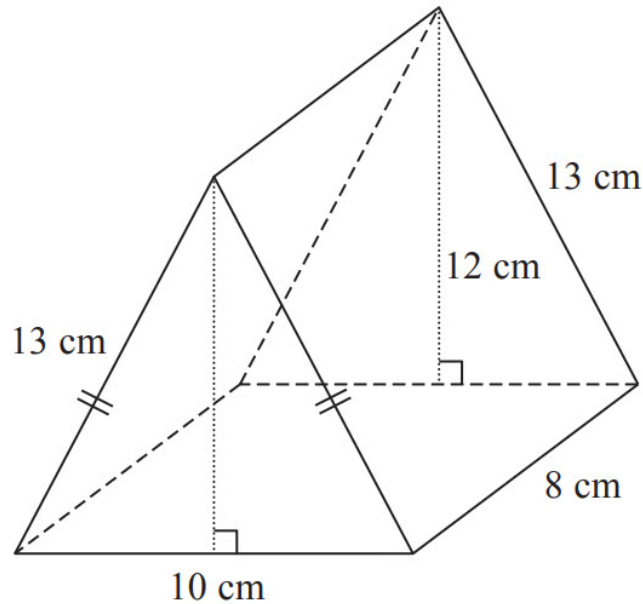


Diagram **NOT**
accurately drawn

The diagram shows a prism.

The cross-section of the prism is an isosceles triangle.

The lengths of the sides of the triangle are 13 cm, 13 cm and 10 cm.

The perpendicular height of the triangle is 12 cm.

The length of the prism is 8 cm.

Work out the total surface area of the prism.

[3 marks]



Question 5

The diagram shows a solid cylinder.

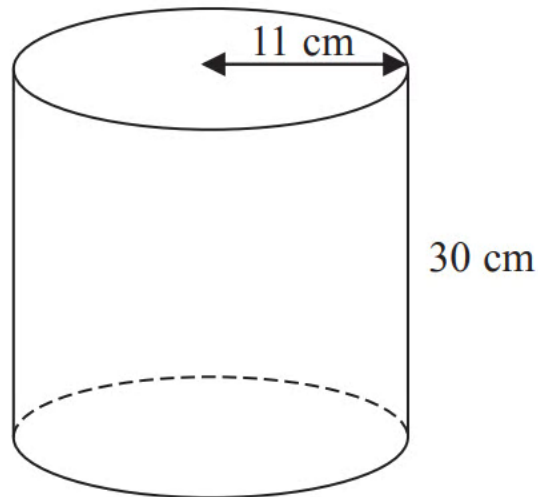


Diagram **NOT**
accurately drawn

The cylinder has a height of 30 cm and a radius 11 cm.

- (a) Work out the **total** surface area of the cylinder.
Give your answer correct to 2 significant figures.

[4 marks]



Question 6

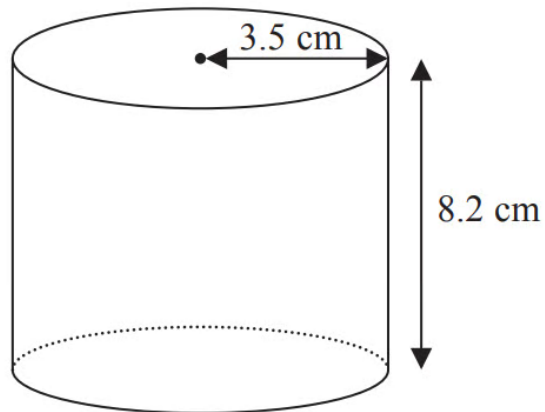


Diagram **NOT**
accurately drawn

A solid cylinder has radius 3.5 cm and height 8.2 cm.

Work out the **total** surface area of the cylinder.

Give your answer correct to 3 significant figures.

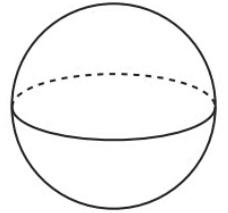
[3 marks]

Question 7

A sphere has a surface area of $81\pi \text{ cm}^2$.

Work out the volume of the sphere.

Give your answer correct to 3 significant figures.



[4 marks]



Question 8

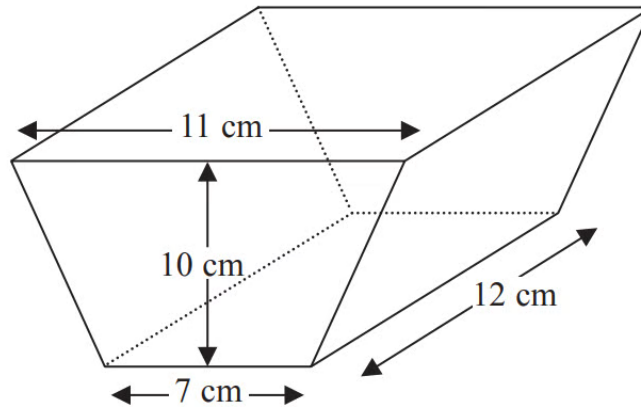


Diagram **NOT**
accurately drawn

The diagram shows a solid prism.
The cross section of the prism is a trapezium.
The lengths of the parallel sides of the trapezium are 11 cm and 7 cm.
The perpendicular distance between the parallel sides of the trapezium is 10 cm.
The length of the prism is 12 cm.

(a) Work out the area of the trapezium.

[2 marks]



Question 9

A cylinder has diameter 12 cm and length 30 cm.

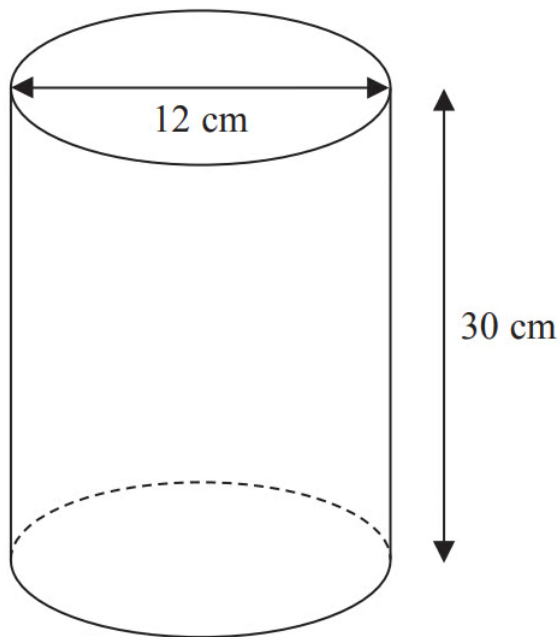


Diagram **NOT**
accurately drawn

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

[3 marks]



Question 10

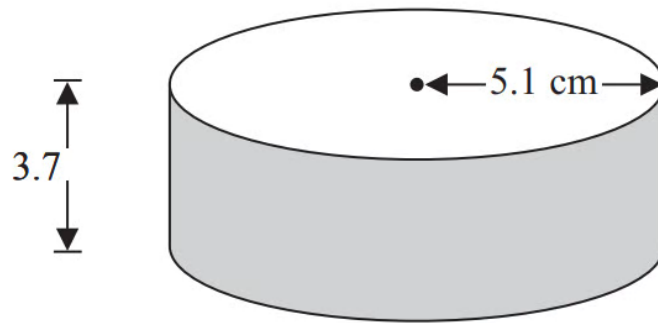


Diagram **NOT**
accurately drawn

A solid cylinder has a radius of 5.1 cm and a height of 3.7 cm

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

[3 marks]



Question 11

The diagram shows a prism.

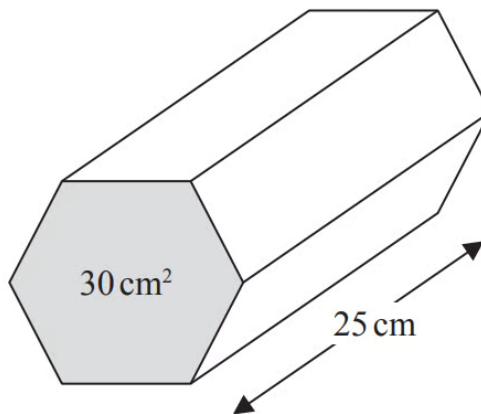


Diagram **NOT**
accurately drawn

The area of the cross section of the prism is 30 cm^2 .
The length of the prism is 25 cm.

Work out the volume of the prism.

[3 marks]



Question 12

Here is a triangular prism.

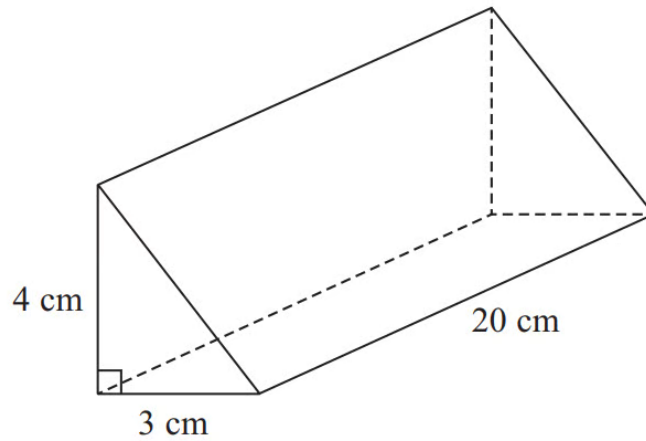


Diagram **NOT**
accurately drawn

Work out the volume of this triangular prism.

[4 marks]



Question 13

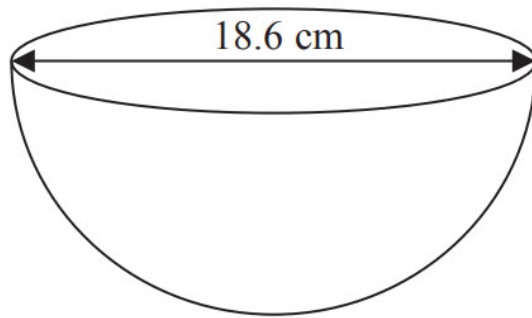


Diagram **NOT**
accurately drawn

The diagram shows a hemisphere with a diameter of 18.6 cm.

Work out the volume of the hemisphere.

Give your answer correct to 3 significant figures.

[3 marks]



Question 14

(b) The height of the cylinder is 30 cm, correct to the nearest centimetre.

(i) Write down the lower bound of the height of the cylinder.

(ii) Write down the upper bound of the height of the cylinder.

[2 marks]