

## CYLINDERS

Pearson Edexcel - Tuesday 11 June 2019 - Paper 3 (Calculator) Higher Tier

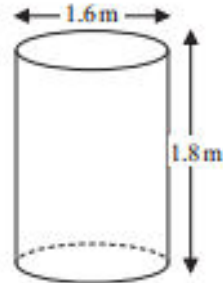
1.

- 6 Jeremy has to cover 3 tanks completely with paint.

Each tank is in the shape of a cylinder with a top and a bottom.  
The tank has a diameter of 1.6 m and a height of 1.8 m.

Jeremy has 7 tins of paint.  
Each tin of paint covers  $5 \text{ m}^2$

Has Jeremy got enough paint to cover completely the 3 tanks?  
You must show how you get your answer.



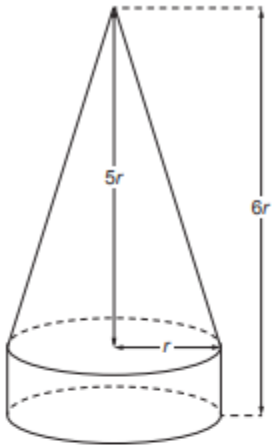
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(Total for Question 6 is 5 marks)

OCR GSCE – Monday 9 November 2020 – Paper 6 (Calculator) Higher Tier

2.

14 The base of a cone is fixed to the top of a cylinder to make a decoration.



The radius of the base of the cone and of the cylinder is  $r$  cm.

The cone's height is  $5r$  cm.

The total height of the decoration is  $6r$  cm.

The total volume of the decoration is  $225 \text{ cm}^3$ .

Calculate the value of  $r$ .

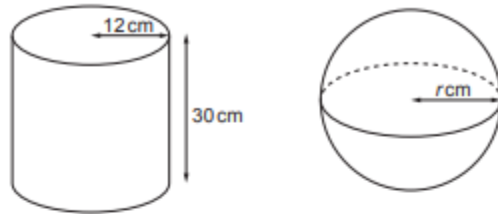
Show your working.

[The volume  $V$  of a cone with radius  $r$  and height  $h$  is  $V = \frac{1}{3}\pi r^2 h$ .]

$r = \dots\dots\dots$  [5]

3.

6 The diagram shows a cylinder and a sphere.



The cylinder has radius 12 cm and height 30 cm.  
The cylinder and the sphere have the same volume.

Work out the radius  $r$  cm of the sphere.

[The volume  $V$  of a sphere with radius  $r$  is  $V = \frac{4}{3}\pi r^3$ .]

..... cm [5]

4.

19 Two cylinders, A and B, are mathematically similar.

Cylinder A has volume  $2400\text{ cm}^3$  and height 12 cm.

Cylinder B has volume  $750\text{ cm}^3$ .

Find the height of cylinder B.

Give your answer correct to an appropriate degree of accuracy.

.....cm [5]