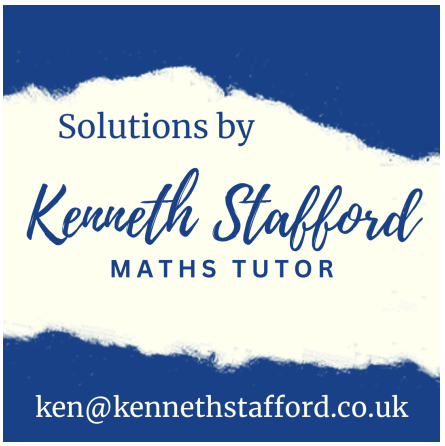
Name: SOLUTIONS

GCSE (1 - 9)

Cylinders





These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

Question	Where the question appeared
1	Edexcel, GCSE, Summer 2019, Paper 3F, Q29
2	Edexcel, GCSE, November 2022, Paper 2F, Q24

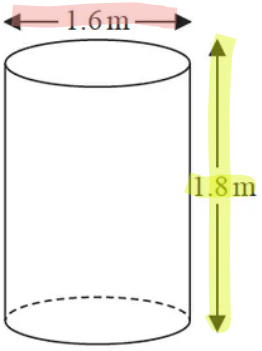
1

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.

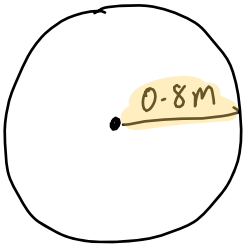
Jeremy has 7 tins of paint.
Each tin of paint covers $5\,m^2$

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



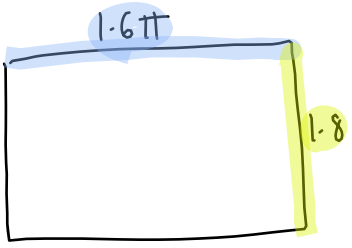
$d = 1.6m$

$r = 0.8m$



Area of circle $= \pi \times (0.8)^2 = 2.01m^2$

Circumference $= \pi \times 1.6 = 1.6\pi$



Area of rectangle $= 1.8 \times 1.6\pi = 9.05m^2$

Surface area of Tank $= 2.01 + 2.01 + 9.05 = 13.07m^2$

3 tanks $= 13.07 \times 3 = 39.21m^2$ to be painted.

7 tins of paint $= 7 \times 5m^2 = 35m^2$ of paint

$39.21 > 35$

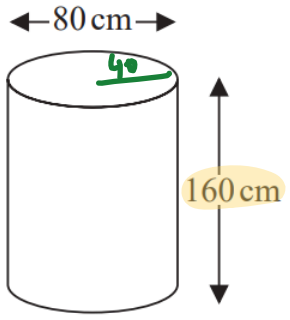
No. He does not have enough paint.

(Total for Question 29 is 5 marks)

[Edexcel, GCSE, Summer 2019, Paper 3F, Q29]

2

Karina has 4 tanks on her tractor.
Each tank is a cylinder with diameter 80 cm and height 160 cm.



$r = 40$

Area of circle $= \pi \times 40^2 = 1600\pi \text{ cm}^2$

Volume of tank $= 160 \times 1600\pi$
$= 256{,}000\pi \text{ cm}^3$

The 4 tanks are to be filled completely with a mixture of fertiliser and water.

The fertiliser has to be mixed with water in the ratio 1 : 100 by volume.
Karina has 32 litres of fertiliser.

$32 + 3200 = 3232$ litres

1 litre = 1000 cm³

Has Karina enough fertiliser for the 4 tanks?
You must show how you get your answer.

$256{,}000\pi \text{ cm}^3 = 804{,}247.72 \text{ cm}^3$

$\div 1000$

804.24772 Litres

$\frac{3232}{804.25} = 4.0186$

Yes she does.

(Total for Question 24 is 4 marks)

[Edexcel, GCSE, November 2022, Paper 2F, Q24]