



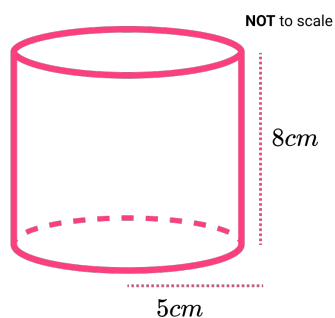
THIRD SPACE  
LEARNING

# GCSE Exam Questions

Volume and Surface Area of  
Cylinders | Geometry &  
Measure

**GCSE Exam Questions: Volume and Surface Area of Cylinders**

1) Here is a cylinder.

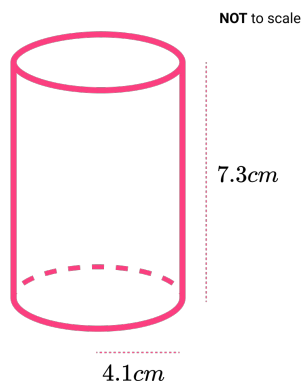


Calculate the volume of the cylinder.

Leave your answer in terms of  $\pi$ .

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

2) Here is a cylinder.



Calculate the total surface area of the cylinder.

Give your answer to 3 significant figures.

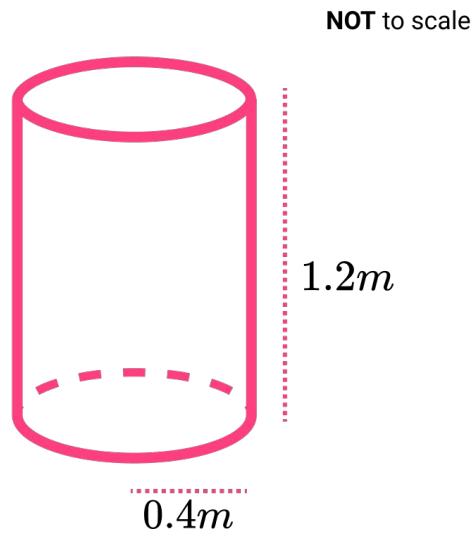
.....  
(4 marks)

**GCSE Exam Questions: Volume and Surface Area of Cylinders**

- 3) Joe has to cover 6 containers completely with paint.

Each container is the shape of a cylinder with a top and a bottom.

The container has a radius of  $0.4\text{ m}$  and a height of  $1.2\text{ m}$ .



Joe has 4 tins of paint.

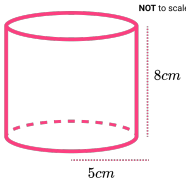
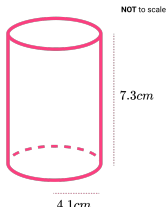
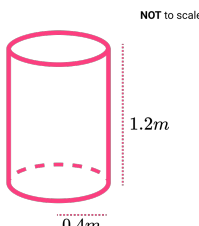
Each tin of paint covers  $7\text{ m}^2$ .

Does Joe have enough paint to cover the containers?

Show your working.

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(5 marks)

## GCSE Exam Questions: Volume and Surface Area of Cylinders Answers

	Question	Answer	Marks
1)	<p>Here is a cylinder.</p>  <p>Calculate the volume of the cylinder. Leave your answer in terms of <math>\pi</math>.</p>	$V = \pi \times 5^2 \times 8$  $200\pi \text{ cm}^3$	<p>(1)</p>  <p>(1)</p>
2)	<p>Here is a cylinder.</p>  <p>Calculate the total surface area of the cylinder. Give your answer to 3 significant figures.</p>	$2 \times \pi \times 4.1 \times 7.3 = 188.0557\dots$  $\pi \times 4.1^2 = 52.8101\dots$  $188.0557\dots + 2 \times 52.8101\dots$  $= 293.676\dots = 294 \text{ cm}^2$	<p>(1)</p>  <p>(1)</p>  <p>(1)</p>  <p>(1)</p>
3)	<p>Joe has to cover 6 containers completely with paint. Each container is the shape of a cylinder with a top and a bottom. The container has a radius of <math>0.4 \text{ m}</math> and a height of <math>1.2 \text{ m}</math>.</p>  <p>Joe has 4 tins of paint. Each tin of paint covers <math>7 \text{ m}^2</math>. Does Joe have enough paint to cover the containers? Show your working.</p>	$\pi \times 0.4^2 = 0.5026\dots$  $= 2 \times \pi \times 0.4 \times 1.2 = 3.0159\dots$  $6 \times (3.0159\dots + 2 \times 0.5026\dots)$ $= 24.127\dots$  $4 \times 7 = 28 \text{ m}^2$  YES - because $28 > 24.127 \text{ m}^2$	<p>(1)</p>  <p>(1)</p>  <p>(1)</p>  <p>(1)</p>  <p>(1)</p>

# Where to go next?

For more diagnostic questions, and GCSE maths revision resources and worksheets to support students in fixing any misconceptions take a look at the free Third Space Learning [GCSE maths revision](#) pages.

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