

Volume of a Cylinder - Worksheet

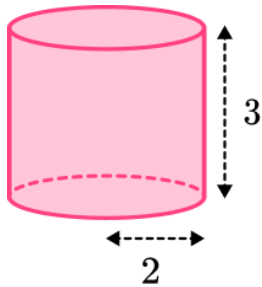
Skill

Group A - Volume of a cylinder

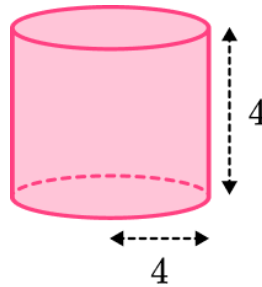
Work out the volume of the cylinders. All dimensions are in *cm*. Diagrams are NOT to scale.

Give your answer correct to 2 d.p:

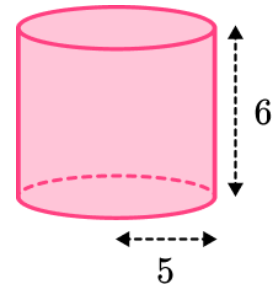
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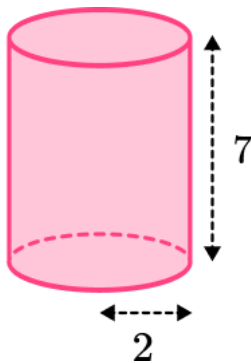
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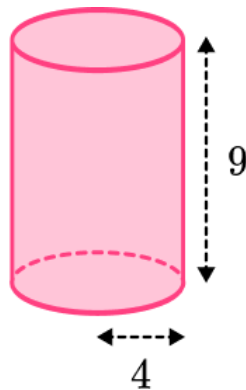
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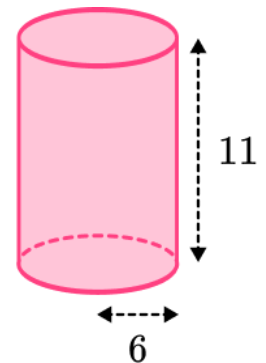
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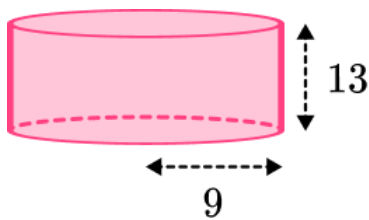
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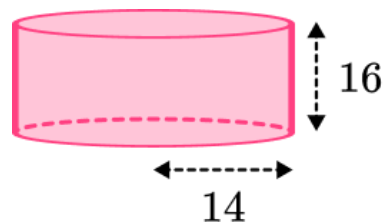
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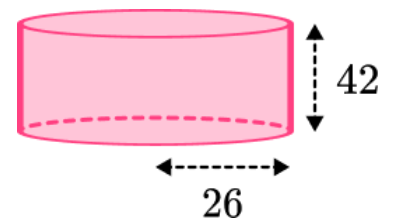
7)



8)



9)



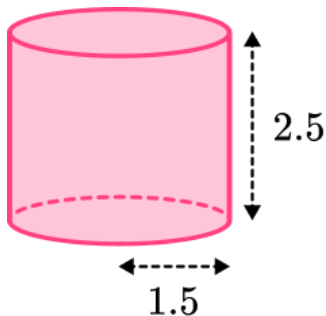
Volume of a Cylinder - Worksheet

Group B - Volume of a cylinder with decimals

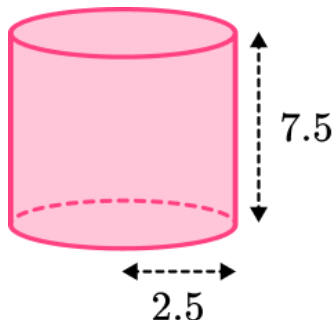
Work out the volume of the cylinders. All dimensions are in *cm*. Diagrams are NOT to scale.

Give your answer correct to 2 d.p:

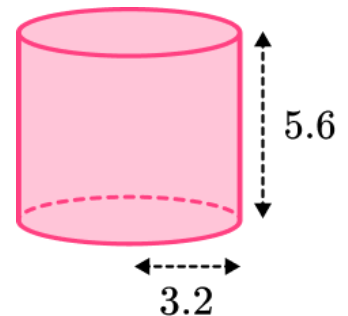
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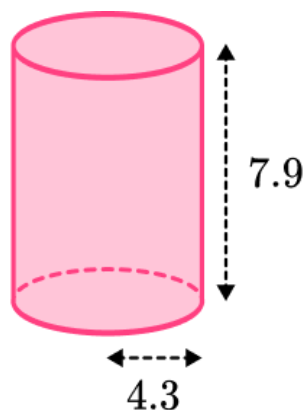
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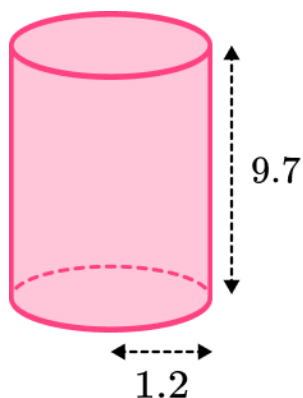
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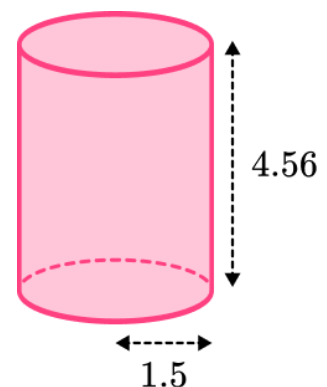
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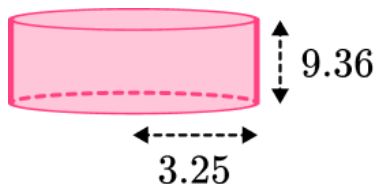
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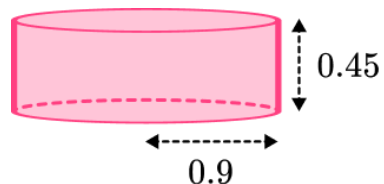
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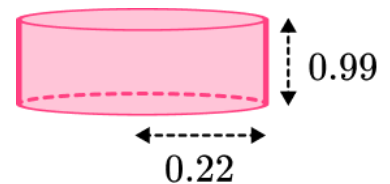
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8)



9)



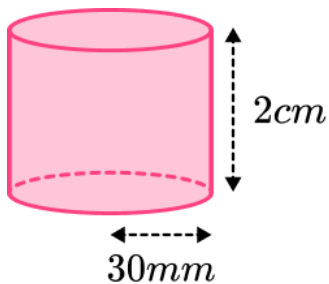
Volume of a Cylinder - Worksheet

Group C - Volume of a cylinder with conversions

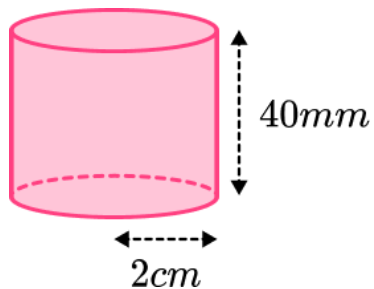
Work out the volume of the cylinder. Diagrams are NOT to scale.

Give your answer correct to 2 d.p:

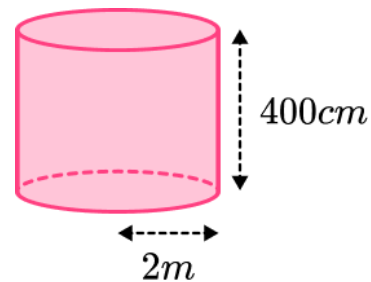
1)



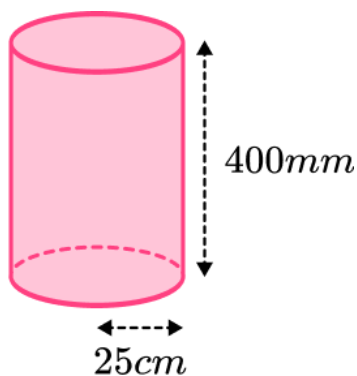
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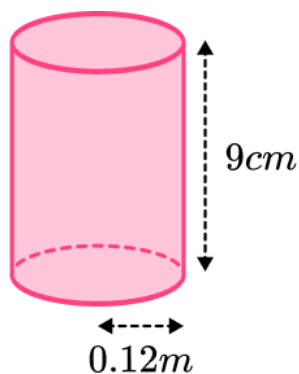
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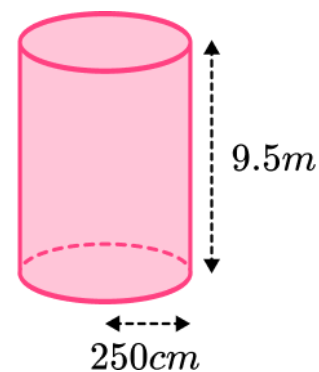
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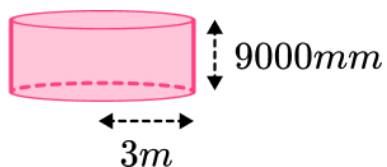
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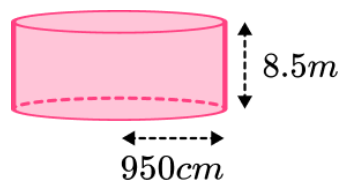
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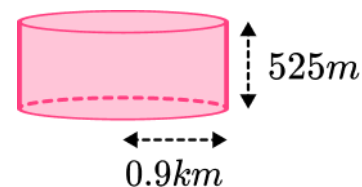
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8)



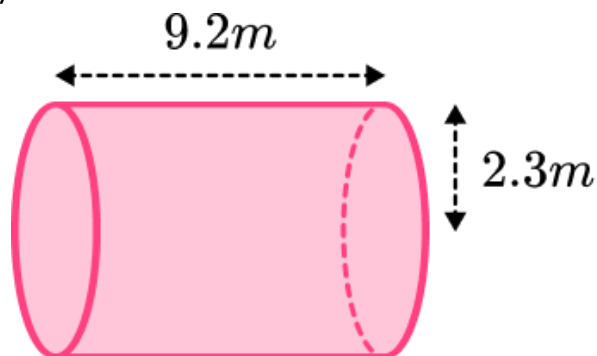
9)



Volume of a Cylinder - Worksheet

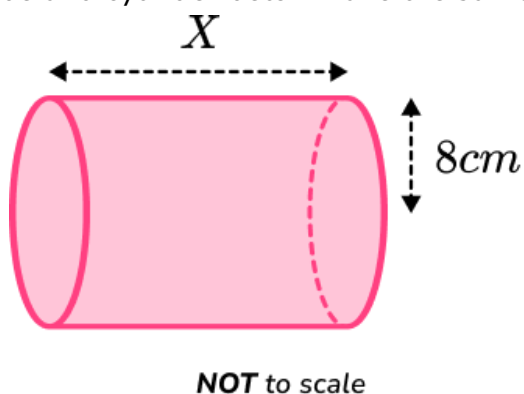
Applied

- 1) Here is a cylinder.

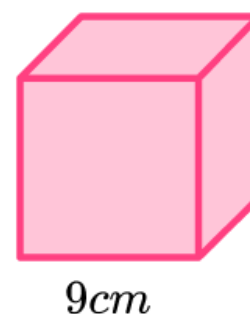


NOT to scale

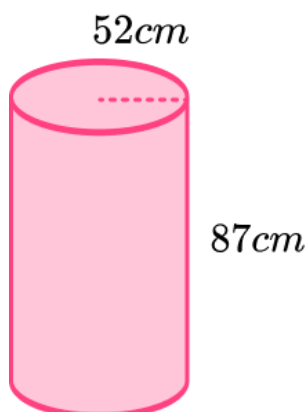
- (a) Work out its volume. Leave your answer in terms of π .
- (b) Give your answer to 3 significant figures.
- 2) The cube and cylinder below have the same volume. Work out the value of x .



NOT to scale

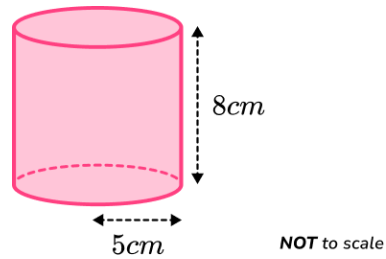


- 3) An oil drum has a radius of $52cm$ and height of $87cm$. Work out the volume of the oil drum to one decimal place.



Volume of a Cylinder - Exam Questions

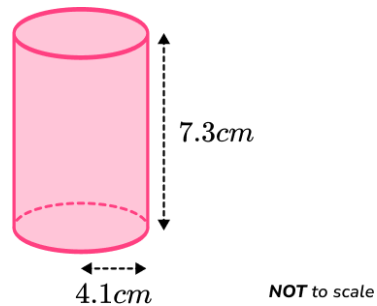
- 1) Here is a cylinder.



Calculate the volume of the cylinder.
Leave your answer in terms of π .

..... cm^3
(3 marks)

- 2) Here is a cylinder.



Calculate the volume of the cylinder. Give your answer to 2 d.p.

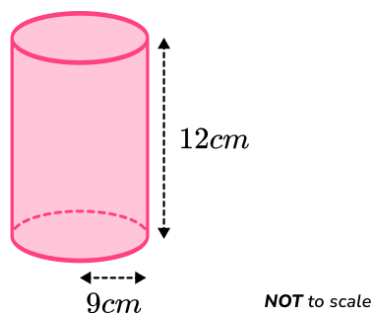
..... cm^3
(3 marks)

Volume of a Cylinder - Exam Questions

- 3) Billy is filling up flower pots with soil.

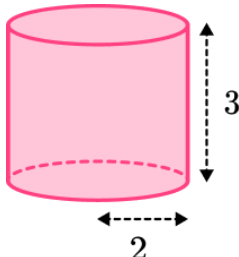
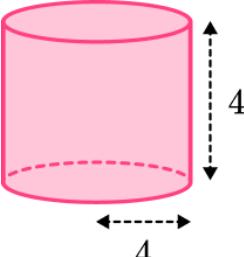
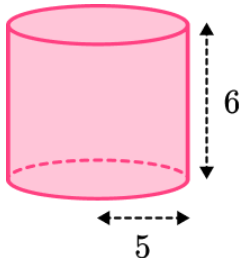
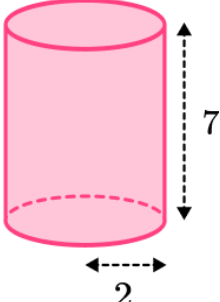
Each flower pot has a radius of 9cm and height of 12cm .

If Billy has 3 flower pots, how many litres of soil is needed to fill all the pots?

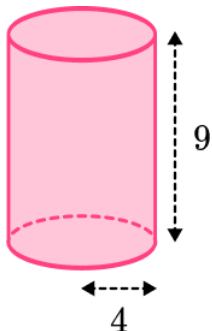
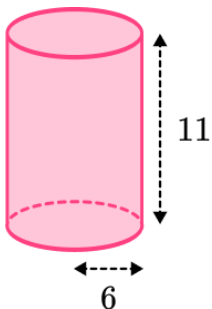
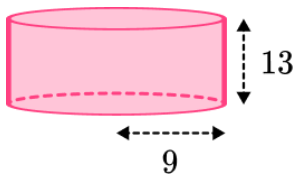
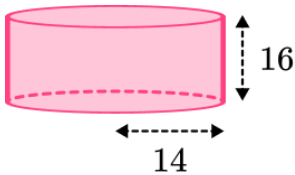
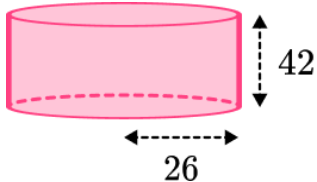


.....
(5 marks)

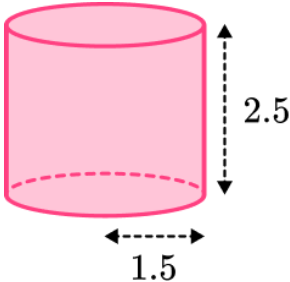
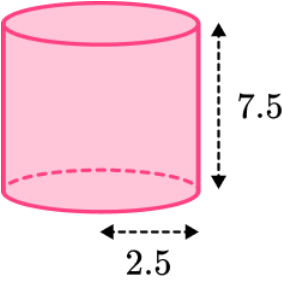
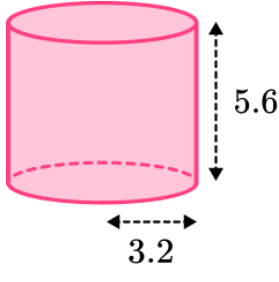
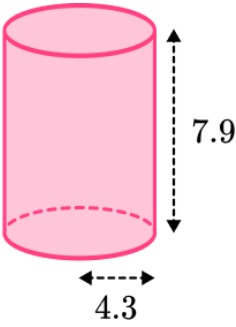
Volume of a Cylinder - Answers

	Question	Answer
	Skill Questions	
Group A	Work out the volume of the cylinders. All dimensions are in <i>cm</i>. Diagrams are NOT to scale. Give your answer correct to 2 d.p: 1)  2)  3)  4) 	1) 37.70cm^3 2) 201.06cm^3 3) 471.24cm^3 4) 87.96cm^3

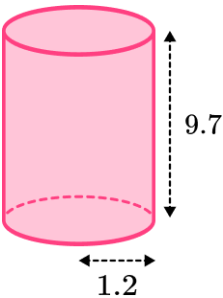
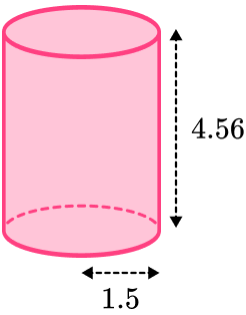
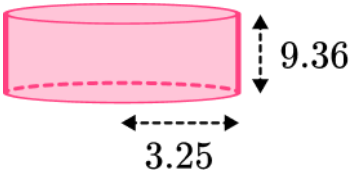
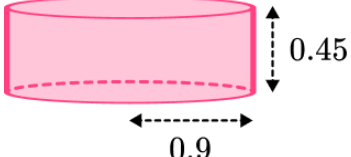
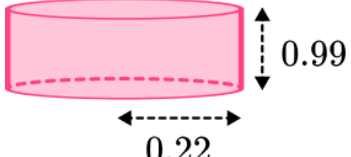
Volume of a Cylinder - Answers

Group A contd	5)		5) 452.39cm^3
	6)		6) 1244.07cm^3
	7)		7) 3308.10cm^3
	8)		8) 9852.03cm^3
	9)		9) 89196.10cm^3

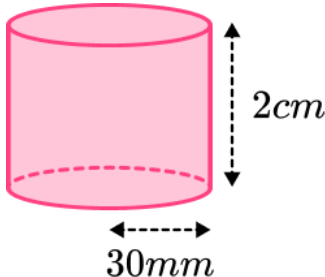
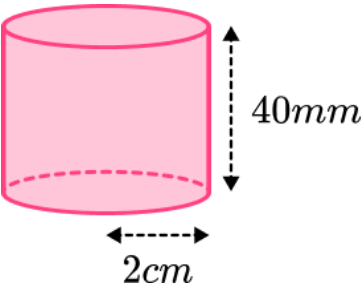
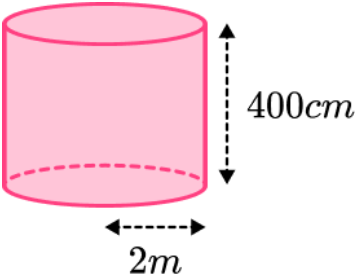
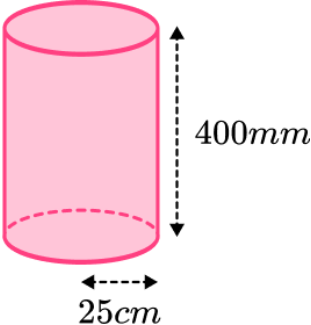
Volume of a Cylinder - Answers

Group B	Work out the volume of the cylinders. All dimensions are in <i>cm</i>. Diagrams are NOT to scale. Give your answer correct to 2 d.p: 1)  2)  3)  4) 	1) 17.67cm^3 2) 147.26cm^3 3) 180.15cm^3 4) 458.90cm^3
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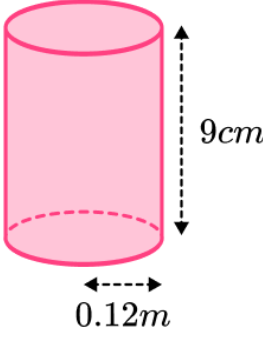
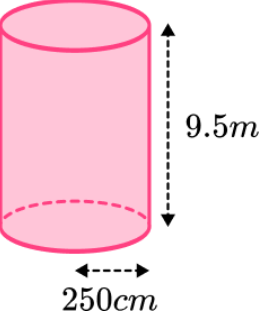
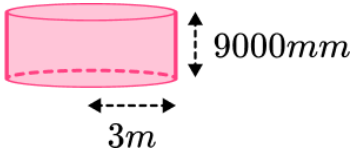
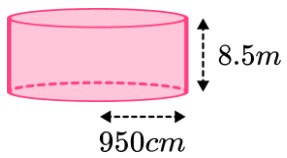
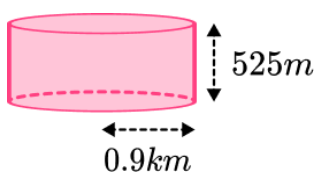
Volume of a Cylinder - Answers

Group B contd	5)		5) 43.88cm^3
	6)		6) 32.23cm^3
	7)		7) 310.59cm^3
	8)		8) 1.15cm^3
	9)		9) 0.15cm^3

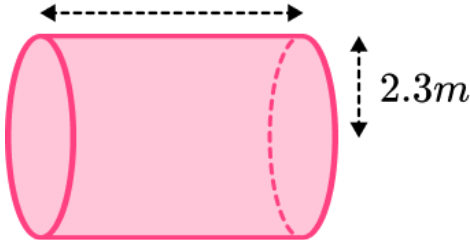
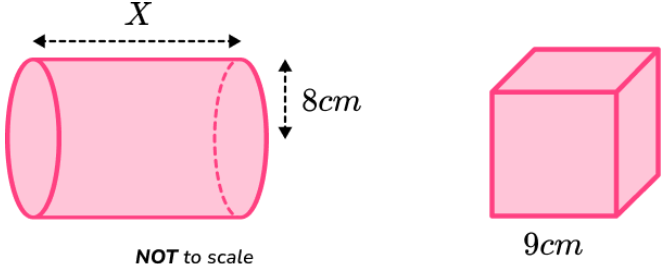
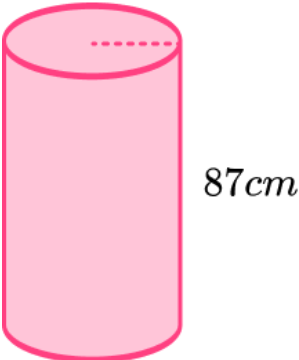
Volume of a Cylinder - Answers

Group C	Work out the volume of the cylinder. Diagrams are NOT to scale. Give your answer correct to 2 d.p: 1)  2)  3)  4) 	1) 56.55cm^3 or 56548.67mm^3 2) 50.27cm^3 or 50265.48mm^3 3) 50.27m^3 or 50265482.46cm^3 4) 78539.82cm^3 or 78539816.34mm^3
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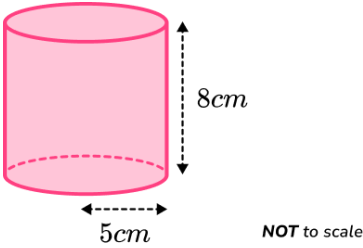
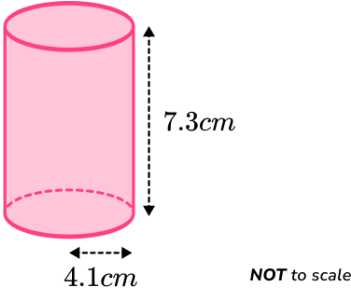
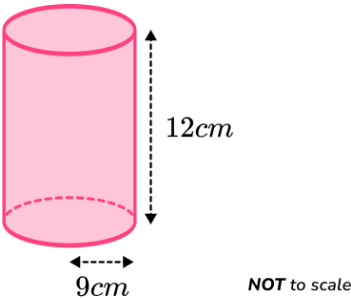
Volume of a Cylinder - Answers

Group C contd	5)  6)  7)  8)  9) 	5) 4071.50cm^3 or 0.04m^3 6) 186.53m^3 or 186532063.80cm^3 7) 254.47m^3 8) 2409.99m^3 or 2409994264.00cm^3 9) 1.34km^3 or 1335962276.00m^3
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Volume of a Cylinder - Answers

	Question	Answer
	Applied Questions	
1)	Here is a cylinder.  <i>NOT to scale</i> a) Work out its volume. Leave your answer in terms of π. b) Give your answer to 3 significant figures.	a) $48.668\pi m^3$ or $\frac{12167}{250}\pi$ b) $48.7m^3$
2)	The cube and cylinder below have the same volume. Work out the value of x.  <i>NOT to scale</i>	$x = 3.63cm$
3)	An oil drum has a radius of $52cm$ and height of $87cm$. Work out the volume of the oil drum to one decimal place. 	a) $739053.4cm^3$

Volume of a Cylinder - Mark Scheme

	Question	Answer
	Exam Questions	
1)	Here is a cylinder.  Calculate the volume of the cylinder. Leave your answer in terms of π.	$V = \pi r^2 h$ $V = \pi(5^2)(8)$ $V = 200\pi \text{ cm}^3$
2)	Here is a cylinder.  Calculate the volume of the cylinder. Give your answer to 2 d.p.	$V = \pi r^2 h$ $V = \pi(4.1^2)(7.3)$ $V = 385.51 \text{ cm}^3$
3)	Billy is filling up flower pots with soil. Each flower pot has a radius of 9 cm and height of 12 cm. If Billy has 3 flower pots, how many litres of soil is needed to fill all the pots? 	$V = \pi r^2 h$ $V = \pi(9^2)(12)$ $V = 3053.63 \text{ cm}^3$ $1\text{ L} = 1000 \text{ cm}^3$ $3053.63 \div 1000$ $3.0563... \text{ litres per pot}$ $3.0563... \times 3 = 9.16 \text{ litres}$

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