4.14 Cylinders: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

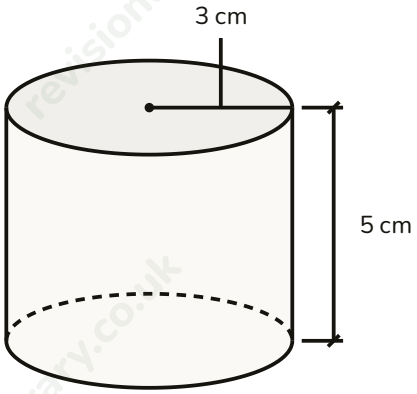
Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out the volume of a cylinder with radius 3 cm and height 5 cm. Give your answer in terms of π.

Diagram NOT accurately drawn

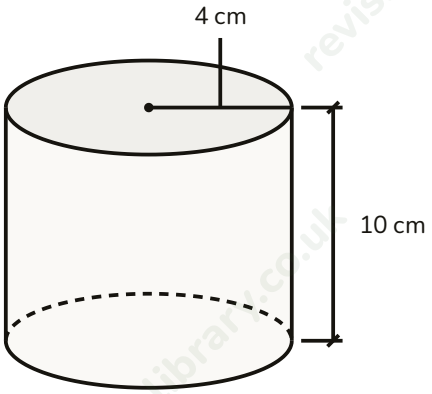


(Total for Question 1 is 2 marks)

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2 A cylinder has radius 4 cm and height 10 cm. Work out the curved surface area of the cylinder. Give your answer in terms of π.

Diagram NOT accurately drawn



(Total for Question 2 is 2 marks)

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3 Which of these is the correct formula for the volume of a cylinder with radius r and height h?

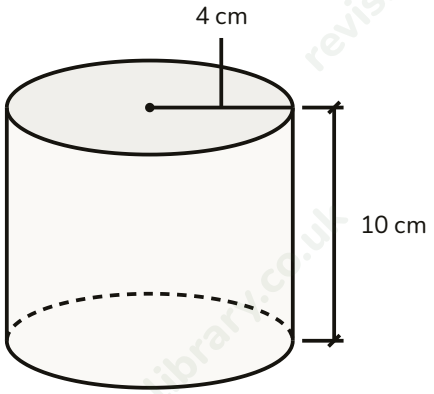
- ☐ A) $V = 2 \times \pi \times r \times h$
- ☐ B) $V = \pi \times r^2 \times h$
- ☐ C) $V = \pi \times r \times h^2$
- ☐ D) $V = 2 \times \pi \times r^2 + 2 \times \pi \times r \times h$

(Total for Question 3 is 1 mark)

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4 A cylinder has radius 4 cm and height 10 cm.
Calculate the volume of the cylinder. Give your answer correct to 3 significant figures.

Diagram NOT accurately drawn

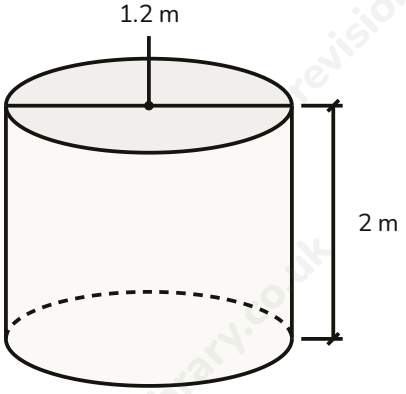


(Total for Question 4 is 2 marks)

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5 A water tank is a cylinder with diameter 1.2 m and height 2 m. Work out the curved surface area of the tank in square metres. Give your answer correct to 3 significant figures.

Diagram NOT accurately drawn



(Total for Question 5 is 2 marks)

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Mark scheme · 4.14 Cylinders: 10-minute Pack

Question 1

use $V = \pi * r^2 * h$ and substitute r = 3, h = 5	**M1**
45pi cm^3 cao	**A1**

Answer: 45pi cm^3

Question 2

use curved surface area = $2 * \pi * r * h$ and substitute r = 4, h = 10	**M1**
80pi cm^2 cao	**A1**

Answer: 80pi cm^2

Question 3

B cao	**B1**

Answer: B

Question 4

π x 4^2 x 10 oe (= 160pi)	**M1**
awrt 503 (units cm^3)	**A1**

Answer: 503 cm^3 (3 s.f.)

Question 5

use curved surface area = $2 * \pi * r * h$ with r = 0.6, h = 2 so CSA = $2 * \pi * 0.6 * 2 = 2.4\pi$	**M1**
7.54 m^2 awrt (2.4pi = 7.5398... so 7.54 to 3 s.f.)	**A1**

Answer: 7.54 m^2

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