

Name: _____

Exam Style Questions



Volume of a Prism

Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

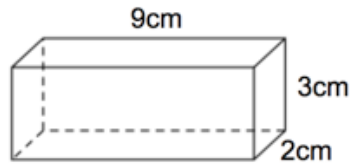
Revision for this topic

Secondary

Video 356



1. Shown below is a cuboid.



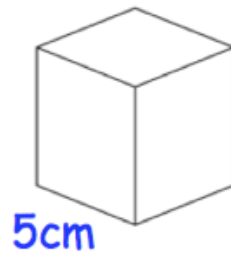
Find the volume of the cuboid.
Include units.

$$V = 2 \times 3 \times 9 = 54$$

$$\underline{54 \text{ cm}^3}$$

(2)

2. Shown below is a cube.



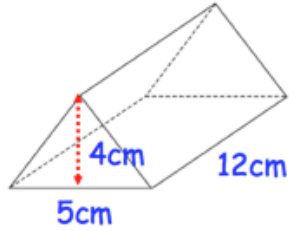
Find the volume of the cube.
Include units.

$$5 \times 5 \times 5 = 125$$

$$\underline{125 \text{ cm}^3}$$

(2)

3. Shown below is a triangular prism.



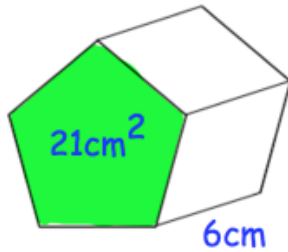
Find the volume of the prism.

$$\begin{aligned} V &= \frac{1}{2}(5 \times 4) \times 12 \\ &= \frac{1}{2}(20) \times 12 \\ &= 10 \times 12 \end{aligned}$$

$$\dots 120 \dots \text{cm}^3$$

(3)

4. Shown below is a prism.
The cross-sectional area is 21cm^2 .
The prism has a length of 6cm .



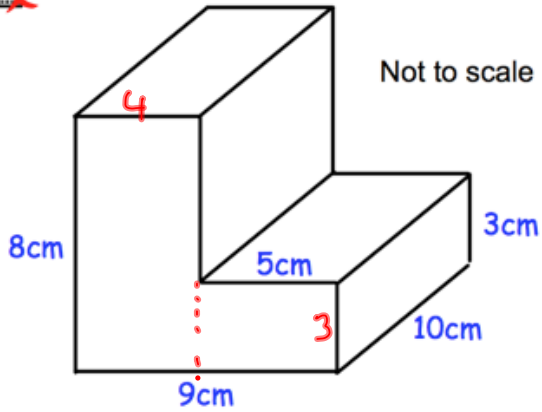
Find the volume of the prism.

$$21 \times 6 = 126$$

$$\dots 126 \dots \text{cm}^3$$

(2)

5. The diagram shows a prism.



Area of front

$$3 \times 5 = 15$$
$$4 \times 8 = 32$$

$$47 \text{ cm}^2$$

Volume

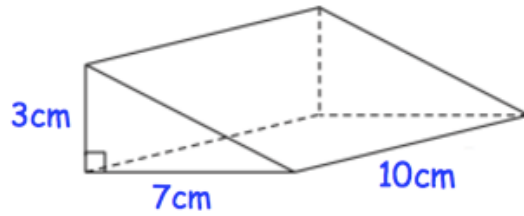
$$47 \times 10 = 470 \text{ cm}^3$$

Work out the volume of the prism.

$$\begin{array}{r} 470 \\ \hline \end{array} \text{ cm}^3$$

(4)

6. Shown below is a triangular prism.

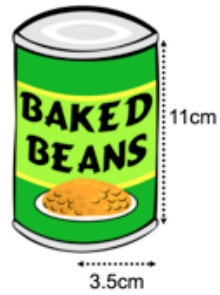


Find the volume of the triangular prism.

$$\begin{aligned} V &= \frac{1}{2} (7 \times 3) \times 10 \\ &= \frac{1}{2} (21) \times 10 \\ &= 10.5 \times 10 \end{aligned}$$

.....105.....cm³
(3)

7. A can of baked beans is shown below.



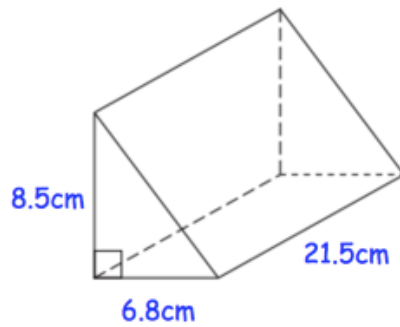
Calculate the volume of the can.

$$V = \pi \times 3.5^2 \times 11$$
$$= 423.329 \dots$$

$$423.3$$

..... cm³
(3)

8. Shown below is a triangular prism.



Find the volume of the triangular prism.

$$V = \frac{1}{2} (6.8 \times 8.5) \times 21.5$$

$$V = \frac{1}{2} (57.8) \times 21.5$$

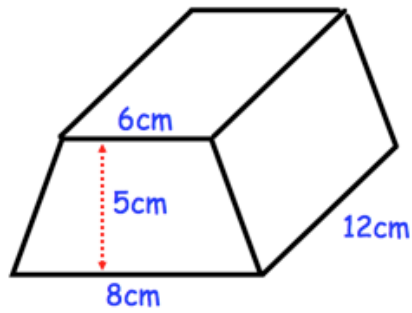
$$= 28.9 \times 21.5$$

$$= 621.35$$

$$\underline{621.35} \text{ cm}^3$$

(3)

9. Shown below is a trapezoid prism.



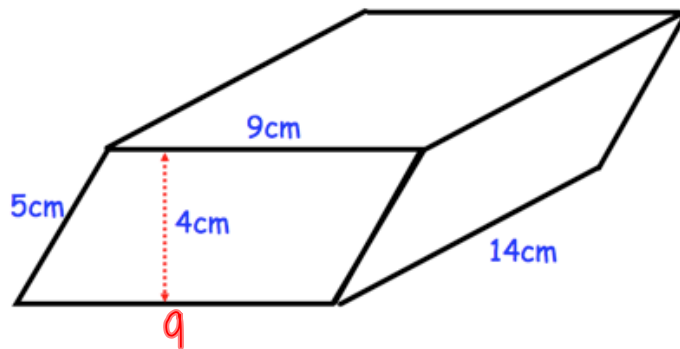
Find the volume of the prism.

$$\begin{aligned} \text{Area of trapezium: } & \frac{1}{2}(6+8) \times 5 \\ & = \frac{1}{2}(14) \times 5 \\ & = 7 \times 5 = 35 \text{ cm}^2 \end{aligned}$$

$$\text{Volume! } 35 \times 12 = 420$$

$$\begin{array}{r} 420 \\ \text{.....cm}^3 \\ (4) \end{array}$$

10. Shown below is a prism.
The cross-section is a parallelogram.



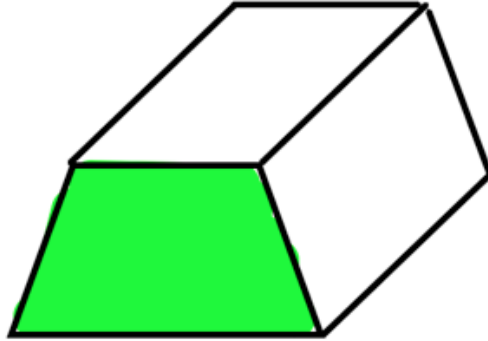
Find the volume of the prism.

$$\text{Area} : 4 \times 9 = 36 \text{ cm}^2$$
$$\text{volume} : 36 \times 14 = 504 \text{ cm}^3$$

$$\underline{\quad 504 \quad} \text{ cm}^3$$

(3)

11. The diagram shows a trapezoid prism.
The area of the cross-section is 55cm^2 .
The volume of the prism is 330cm^3

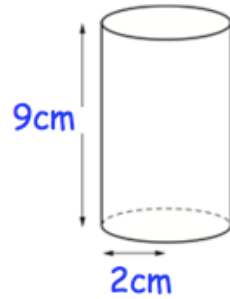


Find the length of the prism.

$$330 \div 55 = 6$$

6 cm
(2)

12. A cylinder has radius 2cm and height 9cm.



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

$$\begin{aligned}V &= \pi \times 2^2 \times 9 \\V &= \pi \times 4 \times 9 \\V &= 36\pi\end{aligned}$$

$$\begin{array}{r}36\pi \\ \hline \dots\dots\dots\text{cm}^3 \\ (3)\end{array}$$