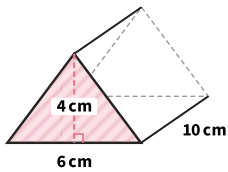


Volume of Prisms

1

Work out the volume of this triangular prism.



$$V = \text{area of cross-section} \times \text{length}$$

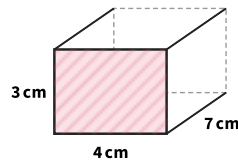
$$\text{cross-section} = \frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$$

$$V = 12 \times 10 = 120 \text{ cm}^3$$

Answer 120 cm³

2

Work out the volume of this cuboid.



$$V = \text{area of cross-section} \times \text{length}$$

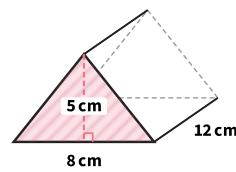
$$\text{cross-section} = 4 \times 3 = 12 \text{ cm}^2$$

$$V = 12 \times 7 = 84 \text{ cm}^3$$

Answer 84 cm³

3

Work out the volume of this triangular prism.



$$V = \text{area of cross-section} \times \text{length}$$

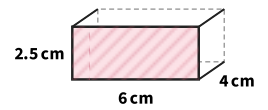
$$\text{cross-section} = \frac{1}{2} \times 8 \times 5 = 20 \text{ cm}^2$$

$$V = 20 \times 12 = 240 \text{ cm}^3$$

Answer 240 cm³

4

Work out the volume of this cuboid.



$$V = \text{area of cross-section} \times \text{length}$$

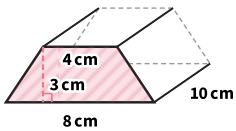
$$\text{cross-section} = 6 \times 2.5 = 15 \text{ cm}^2$$

$$V = 15 \times 4 = 60 \text{ cm}^3$$

Answer 60 cm³

5

Work out the volume of this prism.



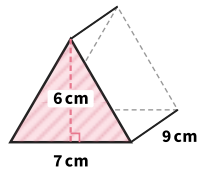
$$\text{cross-section} = \frac{1}{2} \times (4 + 8) \times 3 = 18 \text{ cm}^2$$

$$V = 18 \times 10 = 180 \text{ cm}^3$$

Answer 180 cm³

6

Work out the volume of this triangular prism.



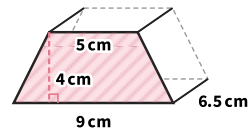
$$\text{cross-section} = \frac{1}{2} \times 7 \times 6 = 21 \text{ cm}^2$$

$$V = 21 \times 9 = 189 \text{ cm}^3$$

Answer 189 cm³

7

Work out the volume of this prism.



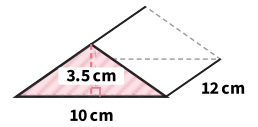
$$\text{cross-section} = \frac{1}{2} \times (5 + 9) \times 4 = 28 \text{ cm}^2$$

$$V = 28 \times 6.5 = 182 \text{ cm}^3$$

Answer 182 cm³

8

Work out the volume of this triangular prism.



$$\text{cross-section} = \frac{1}{2} \times 10 \times 3.5 = 17.5 \text{ cm}^2$$

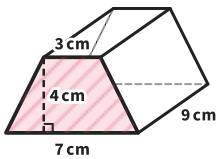
$$V = 17.5 \times 12 = 210 \text{ cm}^3$$

Answer 210 cm³

Volume of Prisms further practice

9

Work out the volume of this prism.

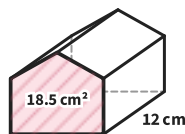


$$\frac{1}{2} \times (3 + 7) \times 4 = 20, \text{ then } \times 9$$

Answer 180 cm³

10

The cross-section of this prism has an area of 18.5 cm². Work out the volume of the prism.

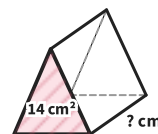


$$18.5 \times 12$$

Answer 222 cm³

11

This prism has a volume of 210 cm³. The area of its cross-section is 14 cm². How long is the prism?

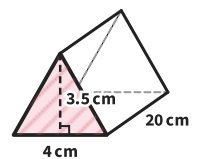


$$210 \div 14$$

Answer 15 cm

12

A box of chocolates is a triangular prism. Work out its volume.

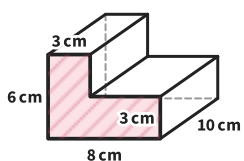


$$\frac{1}{2} \times 4 \times 3.5 = 7, \text{ then } \times 20$$

Answer 140 cm³

13

Work out the volume of this prism.

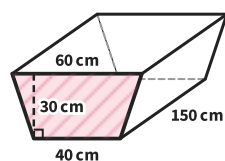


$$8 \times 3 + 3 \times 3 = 33, \text{ then } \times 10$$

Answer 330 cm³

14

A water trough is a prism. How many litres does it hold when it is full? (1 litre = 1000 cm³)

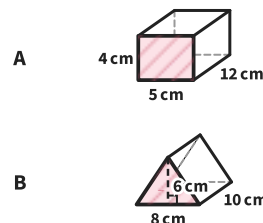


$$1500 \times 150 = 225\,000 \text{ cm}^3$$

Answer 225 litres

15

Which box holds more, A or B?

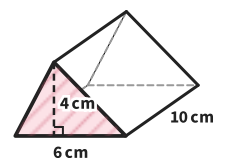


$$A = 240 \text{ cm}^3, B = 240 \text{ cm}^3$$

Answer neither, both 240 cm³

16

Ali says the volume of this prism is 6 × 4 × 10 = 240 cm³. Explain Ali's mistake and find the right volume.



$$\text{cross-section } \frac{1}{2} \times 6 \times 4 = 12$$

Answer 120 cm³