GCSE - Numeracy and Mathematics Topic: Volume of Prisms	Tier: Intermediate	Grade: D/C

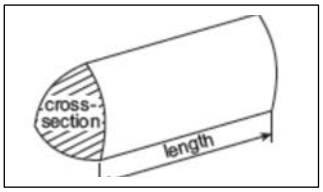
Starter

What is the volume of a cube that has a height of 5cm?

The volume of a large drinking bottle is 2 litres. How much is this in cm^3?

Top Tips!

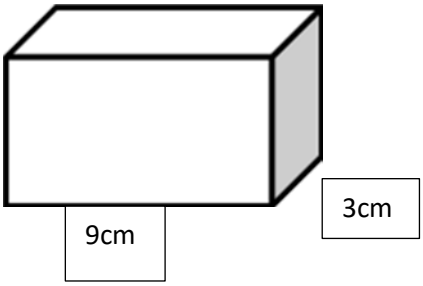
- Remember that 1ml = $1cm^3$
- Learn to use the formula below:



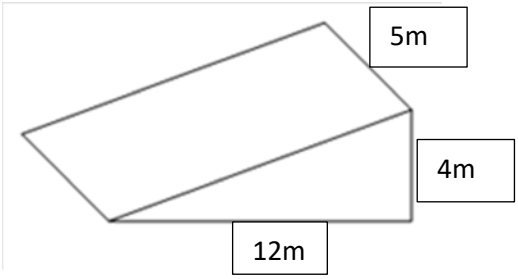
Volume of a prism = Area of cross-section x length of prism

Skills:

1. The volume of the cuboid below is $108cm^3$. Calculate the height.



2. Calculate the volume of the triangular prism:



Examination Question:

2015 January Link - Applications U2 Higher Qu 4

Oil is stored in cylindrical drums.
(a) Each oil drum has a diameter of 46 cm and a height of 125 cm.
Calculate the volume of an oil drum.
Give your answer in litres. [3]

(b) A different oil drum holds 150 litres of oil.
The oil from 4500 of these drums is sold for £1.2 million.
Calculate the cost of 1 litre of this oil. [3]

Assessment for Learning

Video / QR code

GCSE - Numeracy and Mathematics Topic: Volume of Prisms	Tier: Intermediate	Grade: D/C

Starter

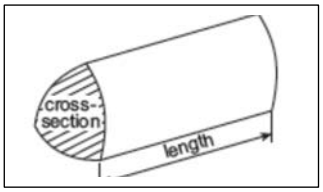
What is the volume of a cube that has a height of 5cm? 5x5x5= 125cm^3

The volume of a large drinking bottle is 2 litres. How much is this in cm³?

2000cm^3

Top Tips!

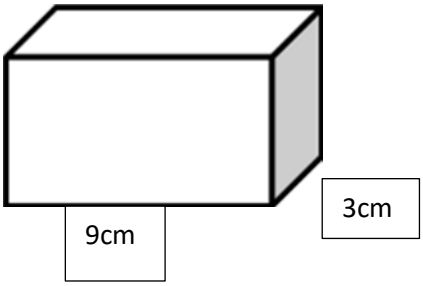
- Remember that 1ml = 1cm³
- Learn to use the formula below:



Volume of a prism = Area of cross-section x length of prism

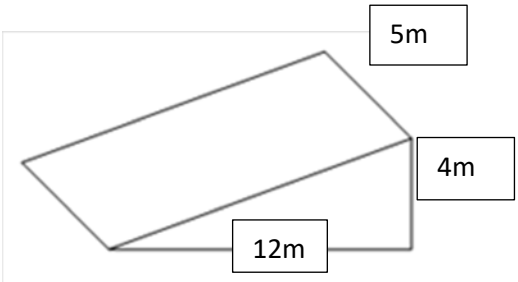
Skills:

1. The volume of the cuboid below is 108cm³. Calculate the height.



108 = 9 x 3 x ?, $\frac{108}{27}$ = ?, ? = 4 cm

2. Calculate the volume of the triangular prism:



A = $\frac{12 \times 4}{2}$ = 24cm^2

V = 24 x 5 = 120cm^3

Examination Question:

2015 January Link - Applications U2 Higher Qu 4

Oil is stored in cylindrical drums.
(a) Each oil drum has a diameter of 46 cm and a height of 125 cm.
Calculate the volume of an oil drum.
Give your answer in litres. [3]

A = $\pi r^2 = \pi \times 23^2 = 1661.90cm^2$ (2.d.p)

V = 1661.90 x 125 = 207737.5cm^3

1litre = 1000cm^3

207737.5 ÷ 1000 = 207.74 litre (2.d.p)

(b) A different oil drum holds 150 litres of oil.
The oil from 4500 of these drums is sold for £1.2 million.
Calculate the cost of 1 litre of this oil. [3]

45000 x 150 litre = 675000 litr

Cost of 1 litre = $\frac{1200000}{675000}$ = £1.78

Assessment for Learning

Video / QR code


GwE