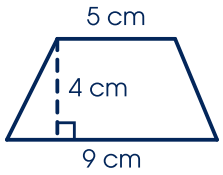
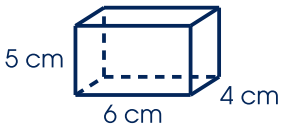
GCSE HIGHER · REVISION MAT 1

Area and volume of shapes and prisms

1 Find the area of this trapezium.

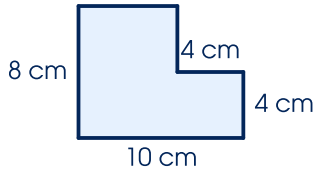


2 Find the volume of a cuboid 4 cm by 5 cm by 6 cm.



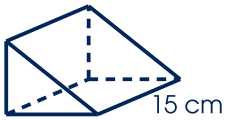
3 Explain why the area of a triangle is half of base × height.

4 Find the area of this shape.



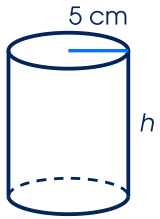
5 A prism has cross-sectional area 12 cm² and length 15 cm.

Show that its volume is 180 cm³.

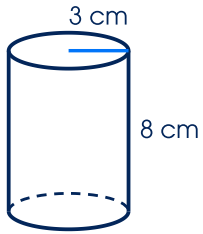


6 A cylinder has radius 5 cm and volume 1000 cm³.

Find its height, to 1 d.p.

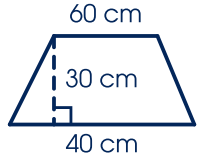


7 Show that the total surface area of this cylinder is 66π cm².



8 A trough is a prism with this trapezium cross-section.

It is 2 m long.



How many litres does it hold?

ANSWERS · REVISION MAT 1

Area and volume of shapes and prisms

1 $\frac{1}{2}(5 + 9) \times 4$

28 cm²

2 **120 cm³**

3 **A triangle is half of a rectangle (or parallelogram) with the same base and height.**

4 $10 \times 8 - 4 \times 4$

64 cm²

5 12×15

= 180 cm³

6 $\frac{1000}{25\pi}$

12.7 cm

7 Ends: $2 \times 9\pi = 18\pi$

Curved: $2\pi \times 3 \times 8 = 48\pi$

66π

8 $\frac{1}{2}(60 + 40) \times 30 = 1500$ cm²

$\times 200 = 300\,000$ cm³

300 litres

Mr&Mrs MATHS