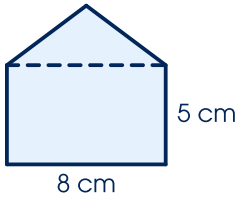
GCSE HIGHER · REVISION MAT 4

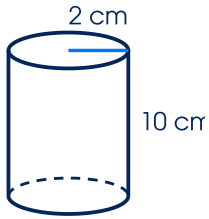
Area and volume of shapes and prisms

1 Find the area of this shape.

Its total height is 8 cm.



2 Find the volume of a cylinder with radius 2 cm and height 10 cm, to 1 d.p.

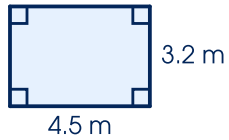


3 Explain why the volume of a prism is its cross-sectional area × length.

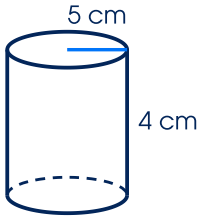
4 A floor is 4.5 m by 3.2 m.

Square tiles are 30 cm wide and come in packs of 10.

How many packs are needed?



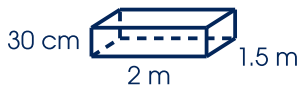
5 Show that a cylinder with radius 5 cm and height 4 cm has volume 100π cm³.



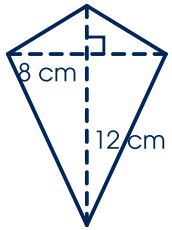
6 A sandpit 2 m by 1.5 m is filled to a depth of 30 cm.

Sand comes in 0.05 m³ bags.

How many bags are needed?



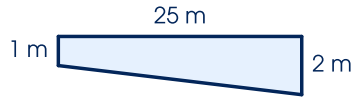
7 Show that a kite with diagonals 8 cm and 12 cm has area 48 cm².



8 A pool is 25 m long and 10 m wide.

Its depth goes evenly from 1 m to 2 m.

Find its volume.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Area and volume of shapes and prisms

1 Rectangle 40,
triangle $\frac{1}{2} \times 8 \times 3 = 12$

52 cm²

2 40π

125.7 cm³

3 **The prism is made of identical slices of the cross-section stacked along its length.**

4 $15 \times 11 = 165$ tiles

17 packs

5 $\pi \times 25 \times 4$

$= 100\pi$

6 $2 \times 1.5 \times 0.3 = 0.9$ m³

18 bags

7 $\frac{1}{2} \times 8 \times 12$

$= 48$

8 Cross-section
trapezium: $\frac{1}{2}(1 + 2) \times 25 = 37.5$

375 m³

Mr&Mrs MATHS