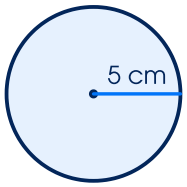
GCSE HIGHER · REVISION MAT 2

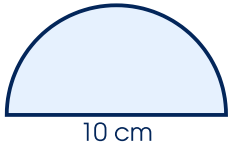
Circles, cones, spheres and pyramids

1 Find the circumference of a circle of radius 5 cm, to 1 d.p.



2 Find the area of a semicircle of diameter 10 cm.

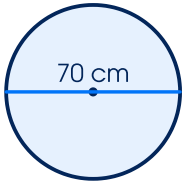
Give your answer in terms of π.



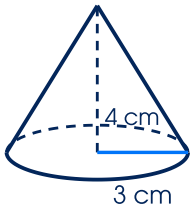
3 Show that a circle with circumference 10π cm has radius 5 cm.

4 A wheel has diameter 70 cm.

How many complete turns does it make in 1 km?



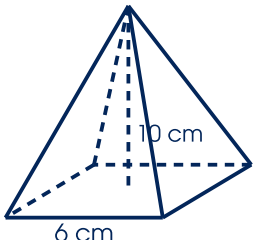
5 Show that the volume of this cone is 12π cm^3.



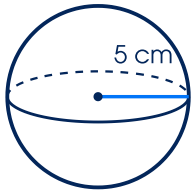
6 A square-based pyramid has base 6 cm and height 10 cm.

A cube has the same volume.

Find the side of the cube.

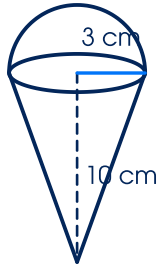


7 Show that a sphere of radius 5 cm has surface area 100π cm^2.



8 An ice cream is a cone of radius 3 cm and height 10 cm, with a hemisphere on top.

Find the total volume.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Circles, cones, spheres and pyramids

1 $2\pi \times 5$

31.4 cm

2 $\frac{1}{2}\pi \times 25$

12.5π cm²

3 $2\pi r = 10\pi$

$r = 5$

4 Circumference $70\pi = 219.9$ cm

$100\,000 \div 219.9 = 454.7$

454 complete turns

5 $\frac{1}{3}\pi \times 9 \times 4$

$= 12\pi$

6 $\frac{1}{3} \times 36 \times 10 = 120$ cm³

$\sqrt[3]{120} = 4.93$ cm

7 $4\pi \times 25$

$= 100\pi$

8 Cone 30π, hemisphere 18π

$48\pi = 150.8$ cm³