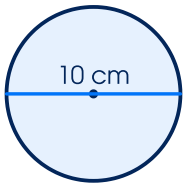
GCSE HIGHER · REVISION MAT 3

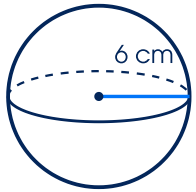
Circles, cones, spheres and pyramids

1 Find the area of a circle of diameter 10 cm, to 1 d.p.



2 Find the volume of a sphere of radius 6 cm.

Give your answer in terms of π.

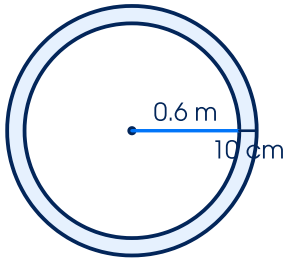


3 Explain why πd and $2\pi r$ give the same circumference.

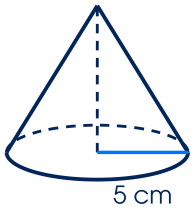
4 A round table has radius 0.6 m.

A tablecloth hangs 10 cm over the edge all round.

Find the area of the cloth.



5 Show that the curved surface area of this cone is 65π cm^2.

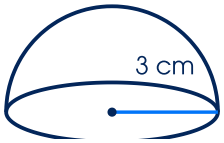


The slant height is 13 cm.

6 A sphere has volume 288π cm^3.

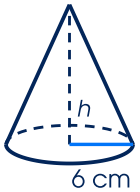
Find its surface area in terms of π.

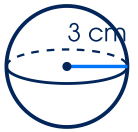
7 Show that a hemisphere of radius 3 cm has volume 18π cm^3.



8 A cone of radius 6 cm has the same volume as a sphere of radius 3 cm.

Find the height of the cone.





ANSWERS · REVISION MAT 3

Circles, cones, spheres and pyramids

1 $\pi \times 25$

78.5 cm²

2 $\frac{4}{3}\pi \times 216$

288π cm³

3 $d = 2r$

4 Radius 0.7 m

π × 0.49 = 1.54 m²

5 $\pi \times 5 \times 13$

= 65π

6 $\frac{4}{3}r^3 = 288 \Rightarrow r = 6$

4π × 36 = 144π cm²

7 $\frac{1}{2} \times \frac{4}{3}\pi \times 27$

= 18π

8 Sphere 36π

$\frac{1}{3}\pi \times 36h = 36\pi$

h = 3 cm

Mr&Mrs MATHS