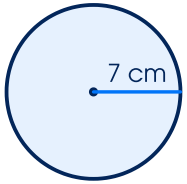
GCSE HIGHER · REVISION MAT 1

Circles, cones, spheres and pyramids

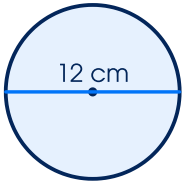
1 Find the area of a circle of radius 7 cm.

Give your answer to 1 d.p.



2 Find the circumference of a circle of diameter 12 cm.

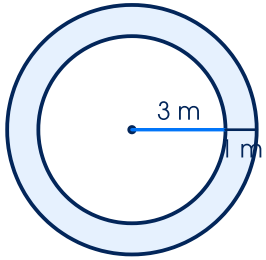
Give your answer in terms of π.



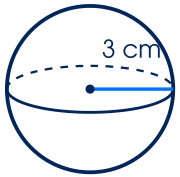
3 Explain why doubling the radius of a circle multiplies its area by 4.

4 A circular pond of radius 3 m has a path 1 m wide around it.

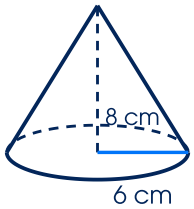
Find the area of the path.



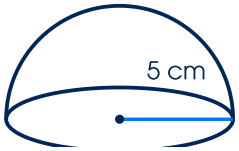
5 Show that the volume of this sphere is 36π cm³.



6 Find the total surface area of this cone.



7 Show that the total surface area of this solid hemisphere is 75π cm².



8 A cylinder of radius 4 cm contains water.

A sphere of radius 3 cm is dropped in and sinks.

By how much does the water rise?





ANSWERS · REVISION MAT 1

Circles, cones, spheres and pyramids

1 $\pi \times 49$

153.9 cm²

2 **12π cm**

3 **Area = πr^2, and $(2r)^2 = 4r^2$.**

4 $\pi(4^2 - 3^2) = 7\pi$

22.0 m²

5 $\frac{4}{3}\pi \times 3^3$

= 36π

6 Slant height 10 cm

$\pi \times 6 \times 10 + \pi \times 36 = 96\pi$

301.6 cm²

7 Curved: $2\pi \times 25 = 50\pi$

Flat: $\pi \times 25$

75π

8 Sphere: 36π cm³

$36\pi \div 16\pi$

2.25 cm

Mr&Mrs MATHS