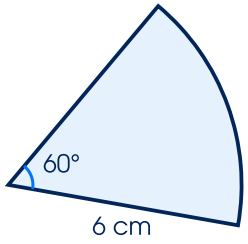
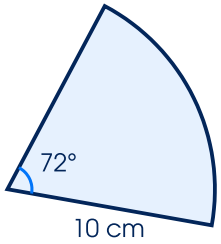
GCSE HIGHER · REVISION MAT 1

Arc length and sector area

1 Find the arc length, to 1 d.p.

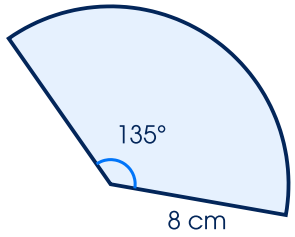


2 Find the area of the sector, to 1 d.p.

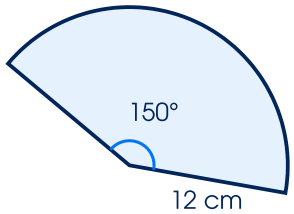


3 Explain why a sector with angle 90° is a quarter of the circle.

4 Find the perimeter of the sector.

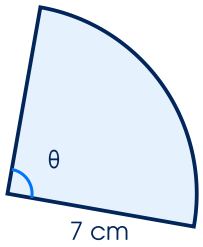


5 Show that a sector of radius 12 cm and angle 150° has area 60π cm².



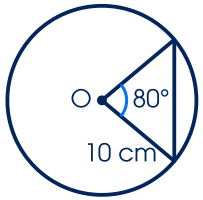
6 A sector has radius 7 cm and arc length 11 cm.

Find the angle of the sector.



7 Show that the area of a sector = $\frac{1}{2}$ × radius × arc length.

8 Find the area of the shaded segment.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Arc length and sector area

1 $\frac{60}{360} \times 2\pi \times 6 = 2\pi$

6.3 cm

2 $\frac{72}{360} \times \pi \times 100 = 20\pi$

62.8 cm²

3 **90° is $\frac{1}{4}$ of 360°.**

4 Arc $= \frac{135}{360} \times 16\pi = 6\pi = 18.85$

34.8 cm

5 $\frac{150}{360} \times 144\pi$

$= 60\pi$

6 $\frac{\theta}{360} \times 14\pi = 11$

$\theta = 90.0°$

7 $\frac{\theta}{360}\pi r^2 = \frac{1}{2}r \times \frac{\theta}{360} \times 2\pi r$

$= \frac{1}{2}r \times l$

8 Sector $\frac{80}{360} \times 100\pi = 69.81$

Triangle $\frac{1}{2} \times 100 \times \sin 80° = 49.24$

20.6 cm²

Mr&Mrs MATHS