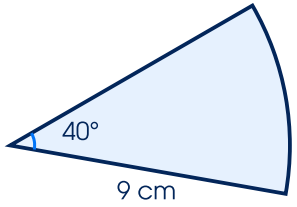
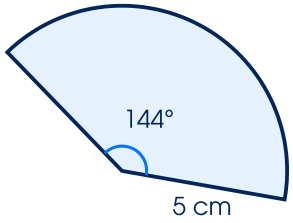
GCSE HIGHER · REVISION MAT 2

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.

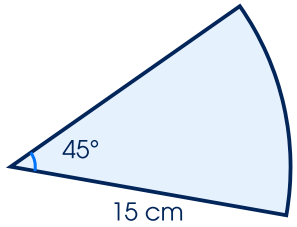


3 Sam says the arc length of a 90° sector of radius 4 cm is 4π cm.

Explain his mistake.

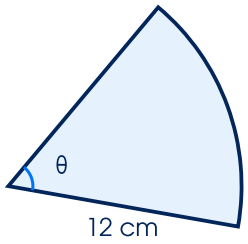
4 A pizza slice is a sector of radius 15 cm and angle 45°.

Find the length of its crust (the arc) and its area.



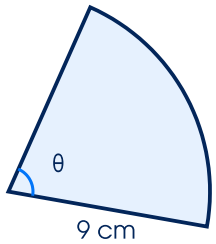
5 A sector has area 24π cm² and radius 12 cm.

Show that its angle is 60°.



6 A sector has radius 9 cm and perimeter 30 cm.

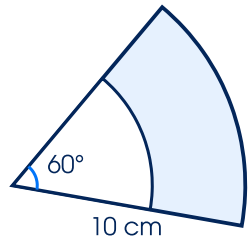
Find its angle.



7 Explain why the arc length of a sector is $\frac{\theta}{360} \times 2\pi r$.

8 Find the area of the shaded region.

The inner radius is 6 cm.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Arc length and sector area

1 $\frac{40}{360} \times 18\pi = 2\pi$

6.3 cm

2 $\frac{144}{360} \times 25\pi = 10\pi$

31.4 cm²

3 $\frac{1}{4} \times 8\pi = 2\pi$ **cm: he found a quarter of the area-type value.**

4 **Arc $3.75\pi = 11.8$ cm**

Area 88.4 cm²

5 $\frac{\theta}{360} \times 144\pi = 24\pi$

$\theta = 60°$

6 Arc = 12 cm

$\frac{\theta}{360} \times 18\pi = 12$

$\theta = 76.4°$

7 **The arc is the fraction $\frac{\theta}{360}$ of the full circumference.**

8 Inner radius 6 cm

$\frac{60}{360} \times \pi(100 - 36)$

33.5 cm²

Mr&Mrs MATHS