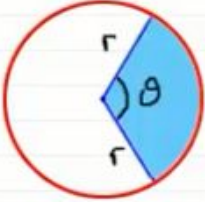
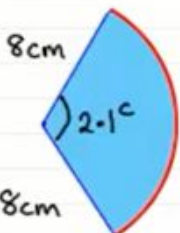
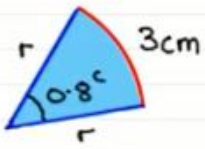




Air maths tuition

Interact, engage and perform

Arc Length and Area of Sectors (radians)

θ in degrees	θ in radians
	
Area = $\frac{\theta}{360} \times \pi r^2$	Area = $\frac{\theta}{2\pi} \times \pi r^2 = \frac{\theta r^2}{2}$
Arc length = $\frac{\theta}{360} \times 2\pi r$	Arc length = $\frac{\theta}{2\pi} \times 2\pi r = \theta r$
Find the area and arc length of the sector	Find the area of the sector
	
Area = $\frac{2.1}{2\pi} \times \pi (8)^2$ $= 67.2 \text{ cm}^2$	$3 = r(0.8)$ $\therefore r = \frac{3}{0.8} = 3.75 \text{ cm}$
Arc length = $\frac{2.1}{2\pi} \times 2\pi (8)$ $= 16.8 \text{ cm}$	\therefore Area = $\frac{0.8}{2\pi} \times \pi (3.75)^2$ $= 5.625 \text{ cm}^2$

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