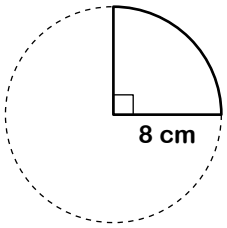
The Formulae for Area of Sectors and Arc Lengths
ANSWERS

Derive the formula for the area of a sector by filling in the missing blanks.
Leave any answers in terms of π.

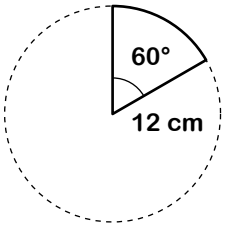
Area of the sector = $\frac{90}{360} \times \pi r^2$



$= \frac{1}{4} \times \pi \times 8^2$

$= 16\pi \text{ cm}^2$

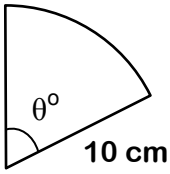
Area of the sector = $\frac{90}{360} \times \pi r^2$



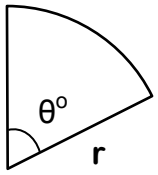
$= \frac{1}{4} \times \pi \times 12^2$

$= 24\pi \text{ cm}^2$

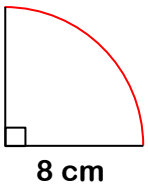
Area of the sector = $\frac{\theta}{360} \times \pi 10^2$



Area of any sector = $\frac{\theta}{360} \times \pi r^2$

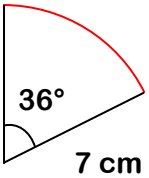


Derive the formula for arc length (shown in red) by filling in the missing blanks.



Arc length = $\frac{90}{360} \times 2\pi \times 8$

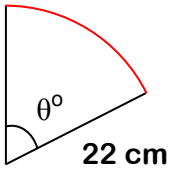
$= 4\pi \text{ cm}$



Arc length = $\frac{36}{360} \times 2\pi \times 7$

$= 1.4\pi \text{ cm}$

Arc length = $\frac{\theta}{360} \times 2\pi \times 22$



Any Arc length = $\frac{\theta}{360} \times 2\pi r$