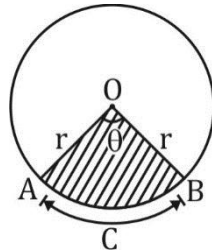


## Mensuration - 2D

➤ Circle :->

Sector



$$\Rightarrow \theta = \frac{l}{r} \rightarrow \begin{array}{l} l \rightarrow \text{length of arc AB} \\ r \rightarrow \text{radius} \end{array}$$

↓  
always in Radian

$$l^c = \frac{180^\circ}{\pi}$$

$$\pi^c = 180^\circ$$

$$l^\circ = \frac{\pi^c}{180}$$

$$\rightarrow l = \pi r \frac{\theta}{180^\circ} \rightarrow \text{in degrees}$$

$$\downarrow = 2\pi r \frac{\theta}{360^\circ}$$

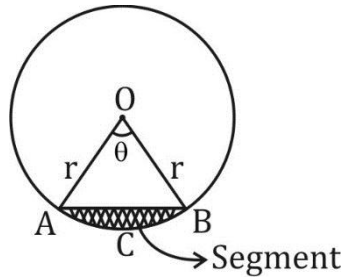
length  
of Arc

$$\rightarrow \text{Area of sector OAB} = \pi r^2 \frac{\theta}{360^\circ}$$

$$\rightarrow \text{Perimeter of sector} = \pi r \frac{\theta}{180^\circ} + 2r$$



## Segment



→ Area = area of sector OACB - area of  $\Delta OAC$

$$= \pi r^2 \frac{\theta}{360^\circ} - \frac{1}{2} r^2 \sin \theta$$

→ Perimeter = length of ARC ACB + Chord length AB

$$= (2\pi r) \frac{\theta}{360^\circ} + 2r \sin \left( \frac{\theta}{2} \right)$$

$$\rightarrow AB = 2r \sin \frac{\theta}{2}$$

