

Ex → 12.2

①

$$r = 6 \text{ cm}$$

$$\theta = 60^\circ$$

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

$$= \frac{22}{7} \times \frac{6 \times 6 \times 60}{360}$$

$$= \frac{132}{7} \text{ cm}^2$$

②

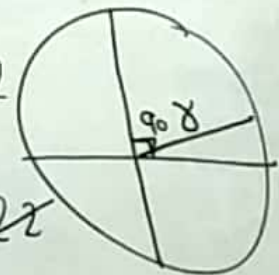
$$2\pi r = 22$$

$$2 \times \frac{22}{7} \times r = 22$$

$$r = \frac{7}{2}$$

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

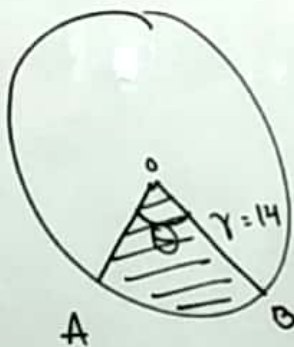
$$= \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} \times \frac{90}{360}$$



$$\text{or } A_1 = \frac{\pi r^2}{4}$$

Ex → 12.2

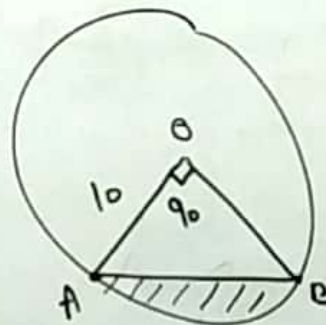
③



$$\theta = 5 \times 6 = 30^\circ$$

$$A = \frac{\pi r^2 \theta}{360} = \frac{22}{7} \times \frac{14 \times 14 \times 30}{360}$$

④



(11)

$$A_{\text{sector}} = \frac{\pi r^2 \theta}{360} = \frac{3.14 \times 10 \times 10 \times 90}{360} = 78.5 \text{ cm}^2$$

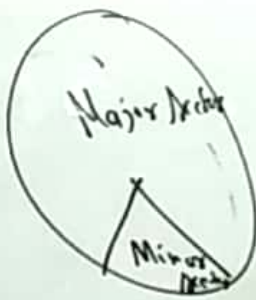
Minor

$$A_{\text{segment}} = A_{\text{sector}} - A_{\Delta}$$

$$A_{\Delta} = \frac{1}{2} r^2 \sin \theta = \frac{1}{2} \times 10 \times 10 \times \sin 90^\circ = 50 \text{ cm}^2$$

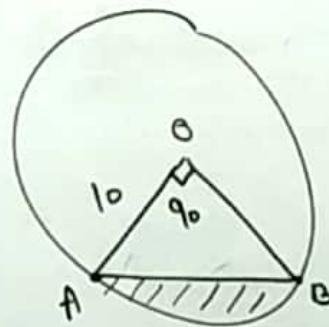
$$A_{\text{segment}} = 78.5 - 50 = 28.5 \text{ cm}^2$$





$$\begin{aligned}\text{Major Sector} &= \pi r^2 - \text{Minor Sector} \\ &= 3.14 \times 10 \times 10 - 78.5 \\ &= 314 - 78.5\end{aligned}$$

④



(1)

$$\begin{aligned}\text{Area} &= \frac{\pi r^2 \theta}{360} = \frac{3.14 \times 10 \times 10 \times 90}{360} \\ &= 78.5 \text{ cm}^2\end{aligned}$$

Minor

$$\text{Segment} = \text{Area} - A_{\Delta}$$

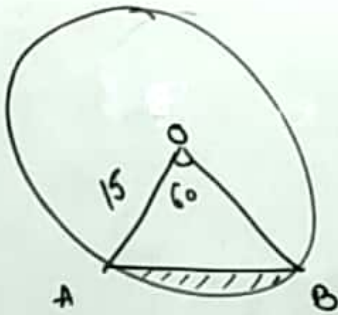
$$A_{\Delta} = \frac{1}{2} r^2 \sin \theta = \frac{1}{2} \times 10 \times 10 \times \sin 90 = 50 \text{ cm}^2$$

$$\text{Segment} = 78.5 - 50 = 28.5 \text{ cm}^2$$



⑥

Minor



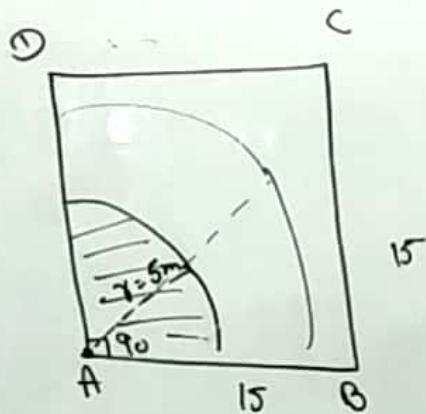
$$(i) A_{\text{segment}} = \frac{\pi r^2 \theta}{360} - \frac{1}{2} r^2 \sin \theta$$

$$= \frac{3.14 \times 15^2 \times 60}{360} - \frac{1}{2} \times 15 \times 15 \times \sin 60$$

$$= 1.57 \times 75 - \frac{1}{2} \times 225 \times \frac{\sqrt{3}}{2}$$

$$(ii) \text{Major segment} = \pi r^2 - \text{Minor segment} = 3.14 \times 15^2 -$$

⑧



$$(i) A = \frac{\pi r^2 \theta}{360}$$

$$A = \frac{3.14 \times 5^2 \times 90}{360}$$

$$(ii) A_1 = \frac{3.14 \times 10^2 \times 90}{360}$$

$$\text{Increase in Area} = A_1 - A$$

10



$$\theta = \frac{360}{8} \\ = 45$$

$$A_{\text{sector}} = \frac{\pi r^2 \theta}{360}$$

$$= \frac{22}{7} \times \frac{45 \times 45 \times 45}{360}$$