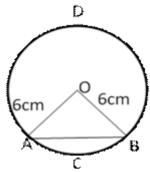


Question 71:

Let AB be the chord of circle of centre O and radius = 6 cm such that $\angle AOB = 90^{\circ}$



: Area of sector = OACBO

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

$$= \left(\frac{22}{7} \times 6 \times 6 \times \frac{90}{360}\right) \text{ cm}^2$$

$$= 28.29 \text{ cm}^2$$

Area of
$$\triangle AOB = \frac{1}{2}r^2 \sin \theta = \left(\frac{1}{2} \times 6 \times 6 \times \sin 90^{\circ}\right) = 18 \text{ cm}^2$$

Area of minor segment ACBA

= (area of sector OACBO) - (area of
$$\triangle$$
OAB)
= (28.29 - 18) cm² = 10.29 cm²

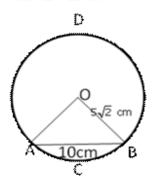
Area of major segment BDAB

= (area of circle) - (area of minor segment)
=
$$\left[\left(\frac{22}{7} \times 6 \times 6 \right) - 10.29 \right] \text{cm}^2$$

= $(113.14 - 10.29) \text{cm}^2 = 102.85 \text{ cm}^2$

Question 72:

Let OA = $5\sqrt{2}$ cm, OB = $5\sqrt{2}$ cm And AB = 10 cm



Then,
$$OA^2 + OB^2 = AB^2$$

 $\Rightarrow \angle AOB = 90^\circ$

Area of the sector OACBO

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

$$= \left(3.14 \times \left(5\sqrt{2}\right) \times \left(5\sqrt{2}\right) \times \frac{90}{360}\right) \text{ cm}^2$$

$$= 39.25 \text{ cm}^2$$

Area of
$$\triangle AOB = \frac{1}{2}r^2 \sin \theta = \left(\frac{1}{2} \times 5\sqrt{2} \times 5\sqrt{2} \times \sin 90^\circ\right)$$

Area of minor segment = (area of sector OACBO) - (area of \triangle OAB)

$$= (39.25 - 25) \text{ cm}^2 = 14.25 \text{ cm}^2$$

Area of the major segment BDAB

= area of cirde - area of minor segment

$$= \left(\frac{22}{7} \times 5\sqrt{2} \times 5\sqrt{2} - 14.25\right) \text{cm}^2$$

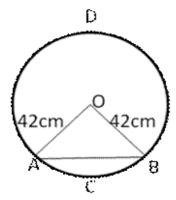
$$= \left(\frac{1100}{7} - 14.25\right) \text{cm}^2 = (157 - 14.25) \text{cm}^2$$

$$= 142.75 \text{ cm}^2$$

Question 73:

Area of sector OACBO

$$= \frac{\pi r^2 \theta}{360} \text{cm}^2 = \left(\frac{22}{7} \times 42 \times 42 \times \frac{120}{360}\right) \text{cm}^2 = 1848 \text{cm}^2$$



Area of
$$\triangle OAB = \frac{1}{2}r^2 \sin \theta$$

= $\left(\frac{1}{2} \times 42 \times 42 \times \sin 120^{\circ}\right)$
= $\left(21 \times 42 \times \frac{\sqrt{3}}{2}\right) cm^2$
= $(21 \times 21 \times 1.73) cm^2 = 762.93 cm^2$

Area of minor segment ACBA

= (area of sector OACBO) - (area of the
$$\triangle$$
OAB)

$$= (1848 - 762.93) \text{ cm}^2 = 1085.07 \text{ cm}^2$$

Area of major segment BADB

$$= \frac{22}{7} \times 42 \times 42 - 1085.07$$

$$= (5544 - 1085.07) \text{cm}^2 = 4458.93 \text{cm}^2$$

********** END ********