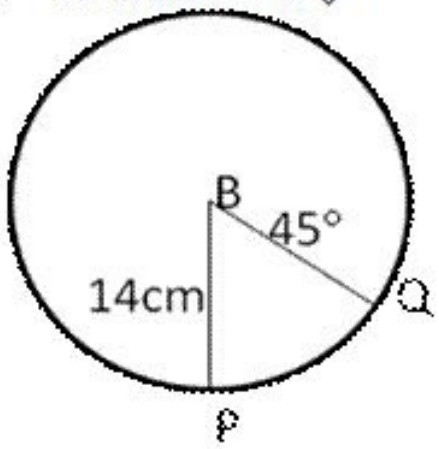
Question 58:

Area of the sector of circle = $\frac{\pi r^2 \theta}{360^\circ}$

r = 14 cm and $\theta = 45^\circ$



$$\therefore \text{Area of sector} = \left(\frac{\pi \times 14 \times 14 \times 45}{360}\right) cm^2$$

$$= (24.5\pi)\, cm^2$$

$$= \left(24.5 \times \frac{22}{7}\right) cm^2 = 77\ cm^2$$

Question 59:

Length of the arc = $\frac{2\pi r\theta}{360}$, r = 21 cm, $\theta = 150^\circ$

$$= \left(\frac{2\pi \times 21 \times 150}{360}\right) cm = (17.5\,\pi)\, cm$$

Length of arc = $\left(17.5 \times \frac{22}{7}\right) cm = 55\, cm$

Area of the sector = $\frac{\pi r^2 \theta}{360} = \left(\frac{\pi \times 21 \times 21 \times 150}{360}\right) cm^2$

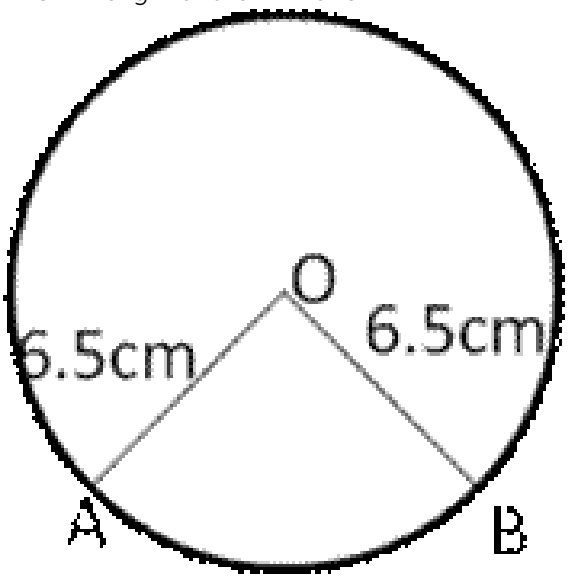
$$= \left(\frac{22}{7} \times 183.75\right) cm^2 = 577.5\ cm^2$$

Question 60:
Length of arc of circle = 44 cm
Radius of circle = 17.5 cm

Area of sector = $\frac{1}{2} lr = \left(\frac{1}{2} \times 44 \times 17.5\right) cm^2$

= (22 × 17.5) cm^2 = 385 cm^2

Question 61:
Let sector of circle is OAB
Perimeter of a sector of circle =31 cm
OA + OB + length of arc AB = 31 cm



6.5 + 6.5 + arc AB = 31 cm
arc AB = 31 - 13
= 18 cm

$$\text{Area of arde} = \frac{1}{2} lr$$

$$= \frac{1}{2} \times 18 \times 6.5 = 58.5 \text{ cm}^2$$

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