

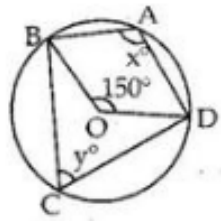


Exercise 11C

Question 10:

O is the centre of the circle and $\angle BOD = 150^\circ$

$$\begin{aligned}\therefore \text{Reflex } \angle BOD &= (360^\circ - \angle BOD) \\ &= (360^\circ - 150^\circ) = 210^\circ\end{aligned}$$



$$\begin{aligned}\text{Now, } x &= \frac{1}{2}(\text{reflex } \angle BOD) \\ &= \frac{1}{2} \times 210^\circ = 105^\circ\end{aligned}$$

$$\therefore x = 105^\circ$$

$$\text{Again, } x + y = 180^\circ$$

$$\Rightarrow 105^\circ + y = 180^\circ$$

$$\Rightarrow y = 180^\circ - 105^\circ = 75^\circ$$

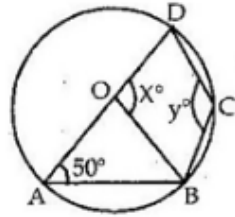
$$\therefore y = 75^\circ$$

Question 11:

O is the centre of the circle and $\angle DAB = 50^\circ$

$$OA = OB \quad [\text{Radii}]$$

$$\Rightarrow \angle OBA = \angle OAB = 50^\circ$$



In $\triangle OAB$ we have

$$\angle OAB + \angle OBA + \angle AOB = 180^\circ$$

$$\Rightarrow 50^\circ + 50^\circ + \angle AOB = 180^\circ$$

$$\Rightarrow \angle AOB = 180^\circ - 100^\circ = 80^\circ$$

Since, AOD is a straight line,

$$\therefore x = 180^\circ - \angle AOB$$

$$= 180^\circ - 80^\circ = 100^\circ$$

$$\therefore x = 100^\circ$$

The opposite angles of a cyclic quadrilateral are supplementary.

ABCD is a cyclic quadrilateral and thus,

$$\angle DAB + \angle BCD = 180^\circ$$

$$\angle BCD = 180^\circ - 50^\circ [\because \angle DAB = 50^\circ, \text{ given}]$$

$$= 130^\circ$$

$$\Rightarrow y = 130^\circ$$

Thus, $x = 100^\circ$ and $y = 130^\circ$

***** END *****