



Exercise 13A

Q6

Answer :

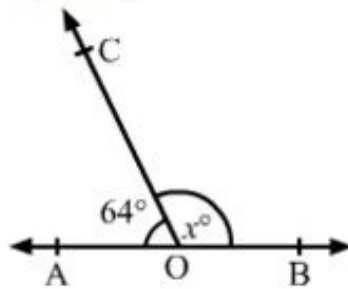
By linear pair property:

$$\angle AOC + \angle COB = 180^\circ$$

$$64^\circ + \angle COB = 180^\circ$$

$$\angle COB = x^\circ = 180^\circ - 64^\circ = 116^\circ$$

$$\therefore x = 116$$



Q7

Answer :

By linear pair property:

$$\angle AOC + \angle BOC = 180^\circ$$

$$\text{or } (2x - 10)^\circ + (3x + 20)^\circ = 180^\circ \quad (\text{given})$$

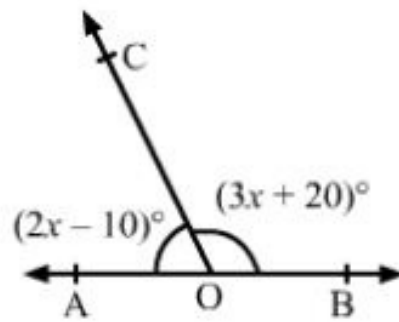
$$\text{or } 5x + 10 = 180$$

$$\text{or } 5x = 170$$

$$\text{or } x = 34$$

$$\therefore \angle AOC = (2x - 10)^\circ = (2 \times 34 - 10)^\circ = 58^\circ$$

$$\angle BOC = (3x + 20)^\circ = (3 \times 34 + 20)^\circ = 122^\circ$$

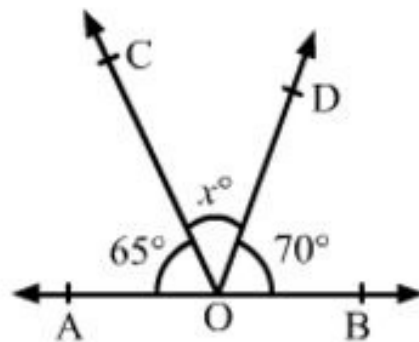


Q8

Answer :

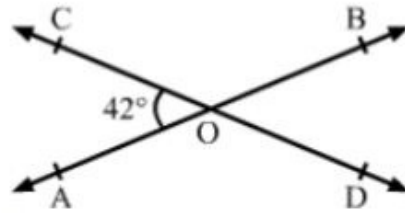
Since AOB is a straight line, we have:

$$\begin{aligned} \angle AOC + \angle BOD + \angle COD &= 180^\circ \\ \text{or } 65^\circ + 70^\circ + x^\circ &= 180^\circ \quad (\text{given}) \\ \text{or } 135^\circ + x^\circ &= 180^\circ \\ \text{or } x^\circ &= 45^\circ \\ \text{Thus, the value of } x &\text{ is } 45 \end{aligned}$$



Q9

Answer :



AB and CD intersect at O and CD is a straight line.

(i) $\angle COA + \angle AOD = 180^\circ$ (linear pair)

$$42^\circ + \angle AOD = 180^\circ$$

$$\angle AOD = 138^\circ$$

(ii) $\angle COA$ and $\angle BOD$ are vertically opposite angles.

$$\therefore \angle COA = \angle BOD = 42^\circ \text{ [from (i)]}$$

(iii) $\angle COB$ and $\angle AOD$ are vertically opposite angles.

$$\therefore \angle COB = \angle AOD = 138^\circ \text{ [from (i)]}$$

Q10

Answer :

(i) $\angle POS + \angle POR = 180^\circ$ (linear pair)

$$\text{or } 114^\circ + \angle POR = 180^\circ$$

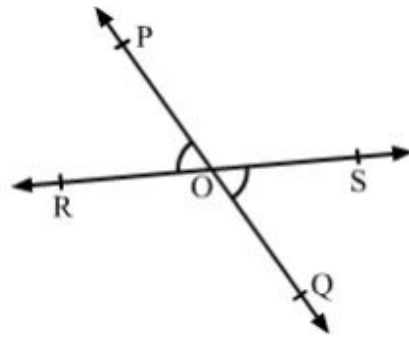
$$\text{or } \angle POR = 180^\circ - 114^\circ = 66^\circ$$

(ii) Since $\angle POS$ and $\angle QOR$ are vertically opposite angles, they are equal.

$$\therefore \angle QOR = 114^\circ$$

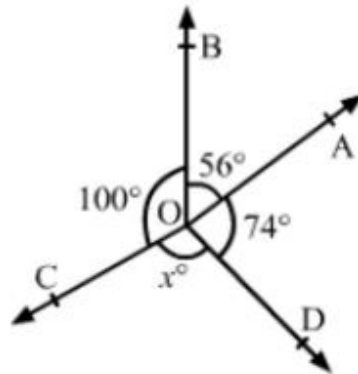
(iii) Since $\angle POR$ and $\angle QOS$ are vertically opposite angles, they are equal.

$$\therefore \angle QOS = 66^\circ$$



Q11

Answer :



Sum of all the angles around a point is 360° .

$$\therefore \angle AOB + \angle BOC + \angle COD + \angle DOA = 360^\circ$$

$$\text{or } 56^\circ + 100^\circ + x^\circ + 74^\circ = 360^\circ \quad (\text{given})$$

$$\text{or } 230^\circ + x^\circ = 360^\circ$$

$$\text{or } x^\circ = 130^\circ$$

$$\text{or } x = 130$$

***** END *****