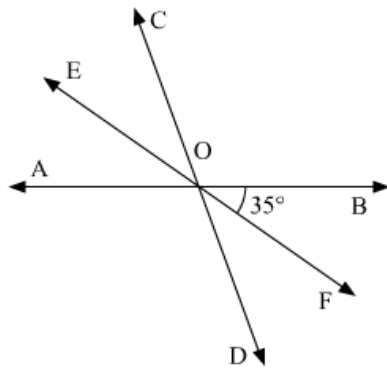




Lines and Angles Ex 8.3 Q10

Answer :

The corresponding figure is as follows:



Three concurrent lines are given as follows:

AB, CD and EF

Also, OF is the bisector of $\angle BOD$ and it is given that $\angle BOF = 35^\circ$. Therefore,
 $\angle FOD = \angle BOF$

$$\angle FOD = 35^\circ$$

Also,

$$\angle BOD = \angle BOF + \angle FOD$$

$$\angle BOD = 35^\circ + 35^\circ$$

$$\angle BOD = 70^\circ \quad (i)$$

Since, $\angle BOD$ and $\angle AOC$ are vertically opposite angles. Therefore,

$$\angle AOC = \angle BOD$$

From (i) equation:

$$\angle AOC = 70^\circ$$

We know that $\angle AOC$ and $\angle BOC$ form a linear pair.

Thus,

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

$$70^\circ + \angle BOC = 180^\circ$$

$$\angle BOC = 180^\circ - 70^\circ$$

$$\angle BOC = \boxed{110^\circ}$$

Similarly, $\angle AOC$ and $\angle AOD$ form a linear pair.

Thus,

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

$$70^\circ + \angle AOD = 180^\circ$$

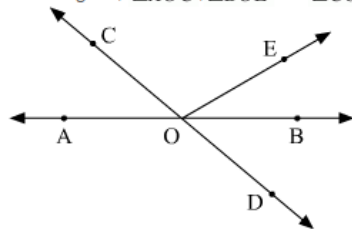
$$\angle AOD = 180^\circ - 70^\circ$$

$$\angle AOD = \boxed{110^\circ}$$

Lines and Angles Ex 8.3 Q11

Answer :

In the figure, $\angle AOC$, $\angle BOE$ and $\angle COE$ form a linear pair.



Thus,

$$\angle AOC + \angle BOE + \angle COE = 180^\circ$$

It is given that $\angle AOC + \angle BOE = 70^\circ$, on substituting this value, we get:

$$70^\circ + \angle COE = 180^\circ$$

$$\angle COE = 180^\circ - 70^\circ$$

$$\angle COE = 110^\circ$$

Thus, reflex $\angle COE = 360^\circ - 110^\circ$

Therefore, reflex $\angle COE = \boxed{250^\circ}$

Since $\angle AOC$ and $\angle BOD$ are vertically opposite angles, thus, these two must be equal.

Therefore,

$$\angle AOC = \angle BOD$$

$$\angle AOC = 40^\circ$$

But, it is given that :

$$\angle AOC + \angle BOE = 70^\circ$$

Substituting $\angle AOC = 40^\circ$ in above equation:

$$40^\circ + \angle BOE = 70^\circ$$

$$\angle BOE = 70^\circ - 40^\circ$$

$$\angle BOE = \boxed{30^\circ}$$

***** END *****