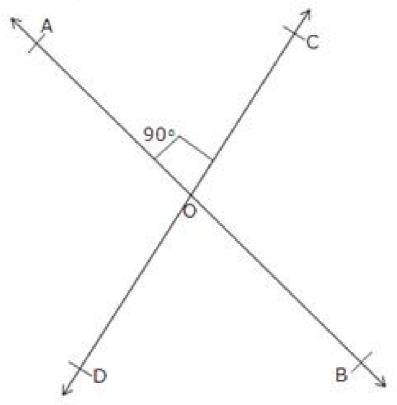


Exercise 4B

Question 10:

Let two straight lines AB and CD intersect at O and let $\angle AOC = 90^{\circ}$.



Now, $\angle AOC = \angle BOD$ [Vertically opposite angles]

⇒ ∠BOD = 90°

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

 \Rightarrow 90° + \angle AOD = 180°

 $\Rightarrow \angle AOD = 180^{\circ} - 90^{\circ} = 90^{\circ}$

Since, $\angle BOC = \angle AOD$ [Verticallty opposite angles]

 \Rightarrow \angle BOC = 90°

Thus, each of the remaining angles is 90°.

Question 11:

Since, ∠AOD and ∠BOC are vertically opposite angles.

∴ ∠AOD = ∠BOC

Now, $\angle AOD + \angle BOC = 280^{\circ}$ [Given]

 \Rightarrow \angle AOD + \angle AOD = 280 $^{\circ}$

⇒ 2∠AOD = 280°

 $\Rightarrow \angle AOD = 280/2 = 140^{\circ}$

 $\Rightarrow \angle BOC = \angle AOD = 140^{\circ}$

As, ∠AOC and ∠AOD form a linear pair.

So, $\angle AOC + \angle AOD = 180^{\circ}$

 $\Rightarrow \angle AOC + 140^{\circ} = 180^{\circ}$

 \Rightarrow $\angle AOC = 180^{\circ} - 140^{\circ} = 40^{\circ}$

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

∴ ∠AOC = ∠BOD

⇒ ∠BOD = 40°

 \therefore $\angle BOC$ = 140°, $\angle AOC$ = 40° , $\angle AOD$ = 140° and $\angle BOD$ = 40°.

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