



Lines and angles Ex 14.1 Q21

**Answer :**

$$\angle 1 = \angle 3 \quad (\text{Vertically opposite angles})$$

$$\therefore \angle 3 = 65^\circ$$

$$\text{Since } \angle 1 + \angle 2 = 180^\circ \quad (\text{Linear pair})$$

$$\therefore \angle 2 = 180^\circ - 65^\circ = 115^\circ$$

$$\angle 2 = \angle 4 \quad (\text{Vertically opposite angles})$$

$$\therefore \angle 4 = \angle 2 = 115^\circ \text{ and } \angle 3 = 65^\circ$$

Lines and angles Ex 14.1 Q22

**Answer :**

$$\angle AOC + \angle BOC = 180^\circ \quad (\text{Linear pair})$$

$$\Rightarrow (2y + 5) + 3x = 180^\circ$$

$$\Rightarrow 3x + 2y = 175^\circ$$

(i) If  $x = 25^\circ$ , then

$$3 \times 25^\circ + 2y = 175^\circ$$

$$\Rightarrow 75^\circ + 2y = 175^\circ$$

$$\Rightarrow 2y = 175^\circ - 75^\circ = 100^\circ$$

$$\Rightarrow y = \frac{100^\circ}{2} = 50^\circ$$

(ii) If  $y = 35^\circ$ , then

$$3x + 2 \times 35^\circ = 175^\circ$$

$$\Rightarrow 3x + 70^\circ = 175^\circ$$

$$\Rightarrow 3x = 175^\circ - 70^\circ = 105^\circ$$

$$\Rightarrow x = \frac{105^\circ}{3} = 35^\circ$$

\*\*\*\*\* END \*\*\*\*\*