Lines and angles Ex 14.1 Q21

Answer :

$\angle 1 = \angle 3$ (Vertically opposite angles)

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

Since $\angle 1 + \angle 2 = 180^\circ$ (Linear pair)

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

$\angle 2 = \angle 4$ (Vertically opposite angles)

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

Lines and angles Ex 14.1 Q22

Answer :

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