Lines and angles Ex 14.1 Q20

Answer :

(i)

Since $\angle BOA + \angle BOC = 180^\circ$ (Linear pair)

$\therefore \angle x = 180^\circ - \angle BOA = 180^\circ - 60^\circ = 120^\circ$

(ii)

Since $\angle QOP + \angle QOR = 180^\circ$ (Linear pair)

$\therefore 2x + 3x = 180^\circ$

$\Rightarrow 5x = 180^\circ$

$\Rightarrow x = \frac{180^\circ}{5} = 36^\circ$

(iii)

Since $\angle LOP + \angle PON + \angle NOM = 180^\circ$ (Linear pair)

$\therefore \angle PON = 180^\circ - \angle LOP - \angle NOM$

$\Rightarrow x = 180^\circ - 35^\circ - 60^\circ$

$\Rightarrow x = 180^\circ - 95^\circ = 85^\circ$

(iv)

Since $\angle COD + \angle DOE + \angle EOA + \angle AOB + \angle BOC = 360^\circ$

(Sum of all angles at a point)

$\therefore 83^\circ + 92^\circ + 75^\circ + 47^\circ + x = 360^\circ$

$\Rightarrow 297^\circ + x = 360^\circ$

$\Rightarrow x = 360^\circ - 297^\circ = 63^\circ$

(v)

$$2x^\circ + x^\circ + 2x^\circ + 3x^\circ = 180^\circ$$

$$\Rightarrow 8x = 180$$

$$\Rightarrow x = \frac{180}{8} = 22.5^\circ$$

(vi)

$$3x^\circ = 105^\circ$$

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

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