Lines and angles Ex 14.2 Q21

Answer :

(i)

$\angle LMQ = \angle ALY$ (Corresponding angles)

$\therefore \angle MLY + \angle ALY = 180^\circ$ (Linear pair)

$\Rightarrow 2\angle ALY + \angle ALY = 180^\circ$

$\Rightarrow 3\angle ALY = 180^\circ$

$\Rightarrow \angle ALY = \frac{180^\circ}{3} = 60^\circ$

$\therefore \angle LMQ = 60^\circ$

(ii)

$\angle XLM = \angle LMQ$ (Alternate interior angles)

$\Rightarrow (2x - 10)^\circ = (x + 30)^\circ$

$\Rightarrow 2x - x = 30^\circ + 10^\circ$

$\Rightarrow x = 40^\circ$

(iii)

$\angle ALX = \angle LMP$ (Corresponding angles)

$\angle ALX + \angle XLM = 180^\circ$ (Linear pair)

$\angle XLM = \angle LMP$ (Given)

$\therefore \angle LMP + \angle LMP = 180^\circ$

$\Rightarrow 2\angle LMP = 180^\circ$

$\Rightarrow \angle LMP = \frac{180^\circ}{2} = 90^\circ$

$\angle XLM = \angle LMP = 90^\circ$

$\angle ALY = \angle XLM$ (Vertically opposite angles)

$\therefore \angle ALY = 90^\circ$

(iv)

$\angle ALY = \angle LMQ$ (Corresponding angles)

$\therefore (2x - 15)^\circ = (x + 40)^\circ$

$\Rightarrow 2x - x = 40^\circ + 15^\circ$

$\Rightarrow x = 55^\circ$

Lines and angles Ex 14.2 Q22

Answer :

$\angle ABC = \angle DAB$ (Alternate interior angles)

$\therefore\ x = 40^\circ$

$\angle ACB = \angle EAC$ (Alternate interior angles)

$\therefore\ y = 55^\circ$

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