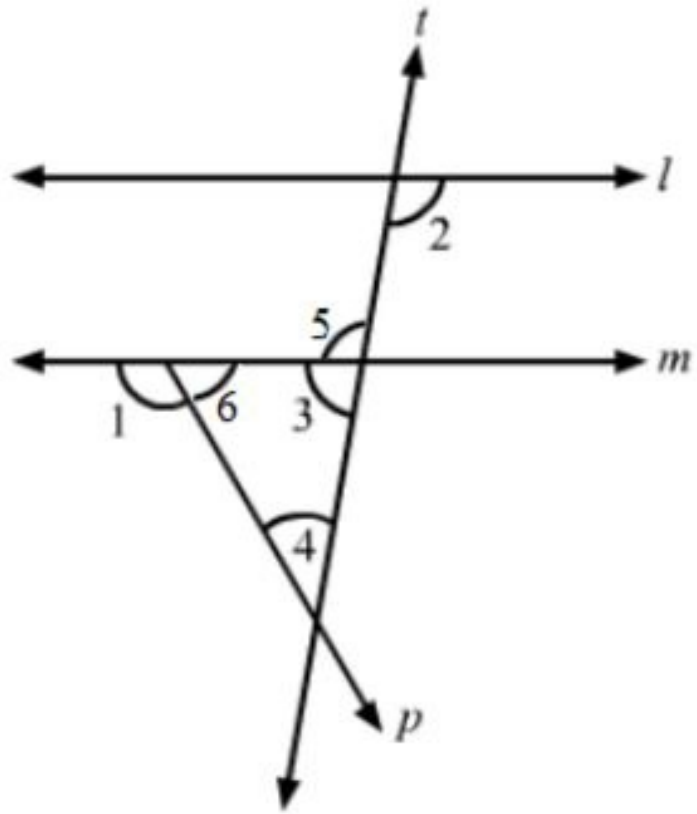
Lines and angles Ex 14.2 Q9

Answer :



In the given figure, $\angle 1 = 120^\circ$ and $\angle 2 = 100^\circ$.

Since $l \parallel m$, so

$\angle 2 = \angle 5 = 100^\circ$ (Alternate interior angles)

$\angle 5 + \angle 3 = 180^\circ$ (Linear pair)

$\Rightarrow \angle 3 = 180^\circ - \angle 5 = 180^\circ - 100^\circ = 80^\circ$

Also,

$\angle 1 + \angle 6 = 180^\circ$ (Linear pair)

$\Rightarrow \angle 6 = 180^\circ - \angle 1 = 180^\circ - 120^\circ = 60^\circ$

We know that the sum of all the angles of triangle is 180°.

$\therefore \angle 6 + \angle 3 + \angle 4 = 180^\circ$

$\Rightarrow 60^\circ + 80^\circ + \angle 4 = 180^\circ$

$\Rightarrow 140^\circ + \angle 4 = 180^\circ$

$\Rightarrow \angle 4 = 180^\circ - 140^\circ = 40^\circ$

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