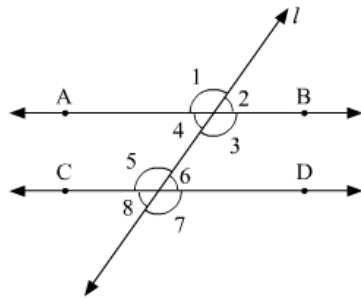




Lines and Angles Ex 8.4 Q1

Answer :

The given figure is as follows:



It is given that the lines AB and CD are parallel and angles 1 and 2 are in the ratio 3: 2.

Let $\angle 1 = 3x$, $\angle 2 = 2x$

In the figure angle 1 and 2 are supplementary. So,

$$3x + 2x = 180$$

$$\Rightarrow 5x = 180$$

$$\Rightarrow x = 36$$

$$\angle 1 = 36 \times 3 = 108^\circ \text{ and } \angle 2 = 36 \times 2 = 72^\circ$$

Since, angle 1 and 5 and angle 2 and 6 are corresponding angles, so

$$\angle 5 = \angle 1 = 3x = 108^\circ$$

$$\angle 6 = \angle 2 = 2x = 72^\circ$$

Since, angles 1 and 3 and 2 and 4 are vertically opposite angles, so

$$\angle 3 = \angle 1 = 3x = 108$$

$$\angle 4 = \angle 2 = 2x = 72^\circ$$

Now,

Angle 5 and 6 and angle 6 and 8 are vertically opposite angles, so

$$\angle 7 = \angle 5 = 108$$

$$\angle 8 = \angle 6 = 72^\circ$$

Hence, $\boxed{\angle 1 = \angle 5 = \angle 3 = \angle 7 = 108^\circ}$ and $\boxed{\angle 2 = \angle 6 = \angle 4 = \angle 8 = 72^\circ}$.

Lines and Angles Ex 8.4 Q2

Answer :

According to the given figure,

$m \parallel n$ and are cut by transversal p .

$$\angle 2 = 120^\circ \quad (\text{alternate interior angles are equal})$$

Also, $l \parallel m$. So, $\angle 1 = \angle 3$ (corresponding angles)

Also, $\angle 3$ and 120° form a linear pair.

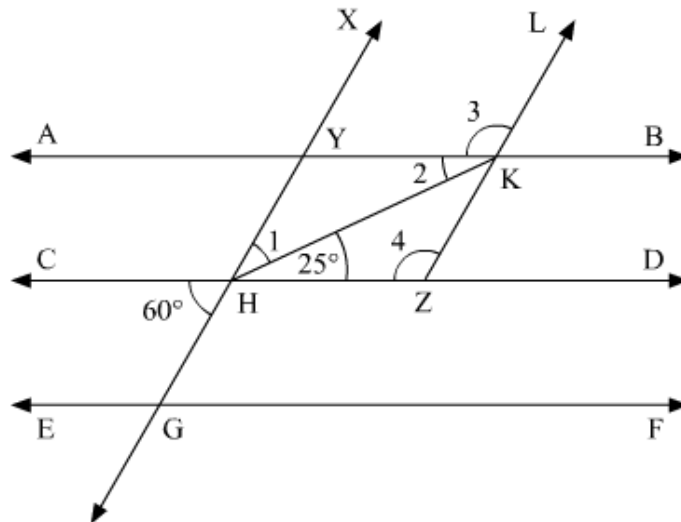
$$\angle 3 + 120^\circ = 180^\circ \Rightarrow \angle 3 = 180 - 120 \Rightarrow \angle 3 = 60^\circ$$

$$\text{And } \angle 1 = \angle 3 = 60^\circ, \angle 2 = 120^\circ$$

Lines and Angles Ex 8.4 Q3

Answer :

The given figure is as follows:



Let us extend GH to meet AB at Y .

Similarly, extend LK to meet CD at Z .

We have the following:

$\angle CHG$ and $\angle YHZ$ are the vertically opposite angles. Therefore,
 $\angle YHZ = \angle CHG$

***** END *****