



Lines and angles Ex 14.2 Q16

Answer :

We know that if the alternate exterior angles of two lines are equal, then the lines are parallel.

In the given figure, $\angle 1$ and $\angle 7$ are alternate exterior angles, but they are not equal.

$$\angle 1 \neq \angle 7$$

$$70^\circ \neq 80^\circ$$

Therefore, lines l and m are not parallel.

Lines and angles Ex 14.2 Q17

Answer :

$$\angle 2 = \angle 3 = 65^\circ \quad (\text{Vertically opposite angles})$$

$$\angle 8 = \angle 6 = 65^\circ \quad (\text{Vertically opposite angles})$$

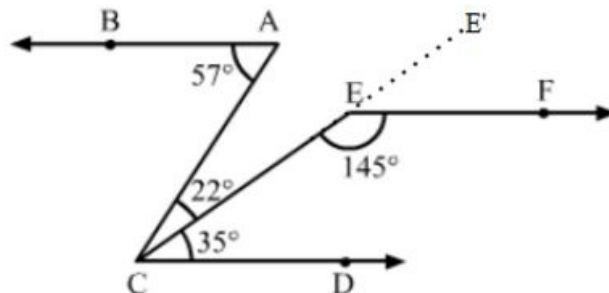
$$\therefore \angle 3 = \angle 6$$

$$\Rightarrow l \parallel m \quad (\text{Two lines are parallel if the alternate angles formed with the transversal are equal})$$

Lines and angles Ex 14.2 Q18

Answer :

Extend line CE to E' .



$$\angle BAC = 57^\circ = 22^\circ + 35^\circ = \angle ACE + \angle ECD$$

$$\therefore AB \parallel CD$$

Here, $\angle E'EF + \angle FEC = 180^\circ$ (Linear pair)

$$\Rightarrow \angle E'EF = 180^\circ - \angle FEC = 180^\circ - 145^\circ = 35^\circ = \angle ECD$$

$$\therefore EF \parallel CD$$

Thus, $AB \parallel CD \parallel EF$

***** END *****