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 :

$\angle 2 = \angle 3 = 65^\circ$ (Vertically opposite angles)

$\angle 8 = \angle 6 = 65^\circ$ (Vertically opposite angles)

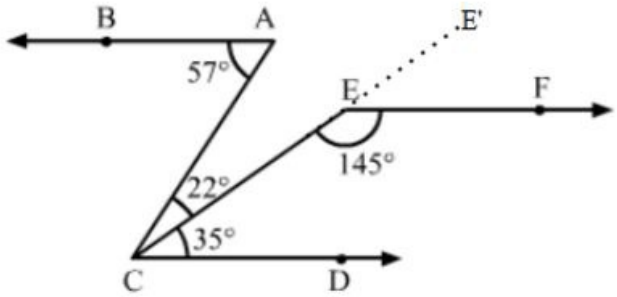
$\therefore \angle 3 = \angle 6$

$\Rightarrow l \parallel m$ (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 || 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 || CD

Thus, AB || CD || EF

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