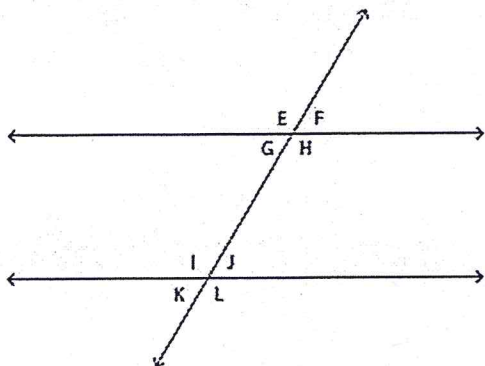


Identify each pair of angles as linear, vertical, corresponding, alternate interior, alternate exterior, same-side interior, or same-side exterior angles.



1) $\angle J$ and $\angle f$ are

Corresponding

2) $\angle E$ and $\angle G$ are

Linear Pair / Supplementary

3) $\angle J$ and $\angle K$ are

Vertical

4) $\angle G$ and $\angle I$ are

Same Side Interior

5) $\angle H$ and $\angle I$ are

Alt. Interior

6) $\angle K$ and $\angle E$ are

Same Side Exterior

7) $\angle F$ and $\angle K$ are

Alt. Exterior

8) $\angle H$ and $\angle G$ are

Linear Pair

9) $\angle E$ and $\angle H$ are

Vert.

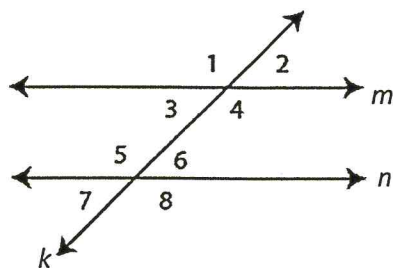
10) $\angle G$ and $\angle J$ are

Alt. Int.

For each figure, first identify the pair of angles then measure each angle.

(w/ a protractor)

Figure A



Lines m and n are parallel

$\angle 1$ and $\angle 5$ are Corresponding

$$m\angle 1 = 135^\circ$$

$$m\angle 5 = 135^\circ$$

$\angle 3$ and $\angle 6$ are Alt. Interior

$$m\angle 3 = 45^\circ$$

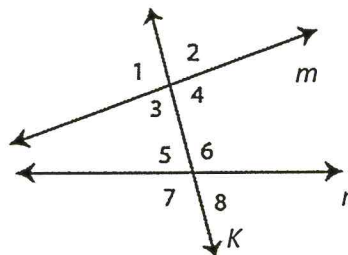
$$m\angle 6 = 45^\circ$$

$\angle 1$ and $\angle 4$ are Vertical

$$m\angle 1 = 135^\circ$$

$$m\angle 4 = 135^\circ$$

Figure B



Lines m and n are not parallel

$\angle 1$ and $\angle 5$ are Corresponding

$$m\angle 1 = 95^\circ$$

$$m\angle 5 = 75^\circ$$

$\angle 3$ and $\angle 6$ are Alt. Interior

$$m\angle 3 = 85^\circ$$

$$m\angle 6 = 105^\circ$$

$\angle 1$ and $\angle 4$ are Vertical

$$m\angle 1 = 95^\circ$$

$$m\angle 4 = 95^\circ$$

Conclusion:

The vertical angle theorem is the only congruency theorem that stays true if the lines are not parallel.