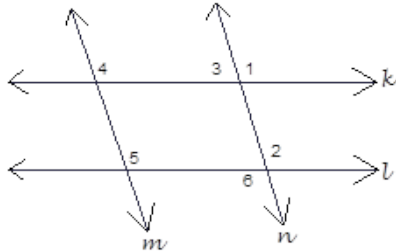


1. Given: $line\ k \parallel line\ l$ and $\angle 5 \cong \angle 1$

Prove: $line\ m \parallel line\ n$



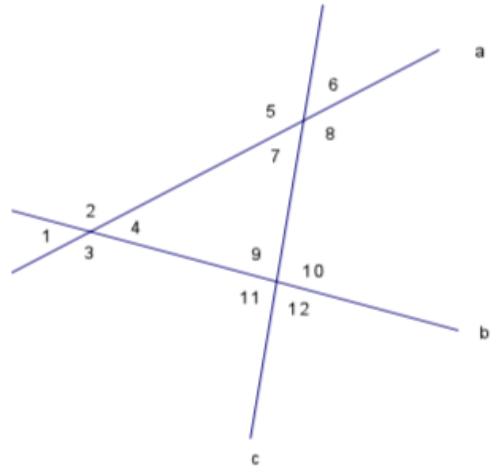
Statements	Reasons

2. What is the difference between “ \parallel lines \rightarrow alternate interior angles are \cong ” and “alternate interior angles are $\cong \rightarrow \parallel$ lines”?

3. $\triangle ABC$ is an isosceles triangle with base AB . If $AB = 9x + 31$ and $BC = 7x + 45$ and $AC = 11x + 27$, find the length of each side.

4. Using the diagram to the right, identify the name for each angle pair listed.

- a. $\angle 9$ and $\angle 8$: _____
- b. $\angle 9$ and $\angle 4$: _____
- c. $\angle 2$ and $\angle 6$: _____
- d. $\angle 1$ and $\angle 12$: _____
- e. $\angle 6$ and $\angle 11$: _____
- f. $\angle 9$ and $\angle 10$: _____
- g. $\angle 2$ and $\angle 3$: _____



5. Write the converse of each statement and then decide whether the converse is True or False.

- a. If three points are collinear, then they lie on the same line.

TRUE FALSE

- b. If two angles are right angles, then they are congruent.

TRUE FALSE

6. Are the lines parallel? Show mathematical evidence to support your response.

