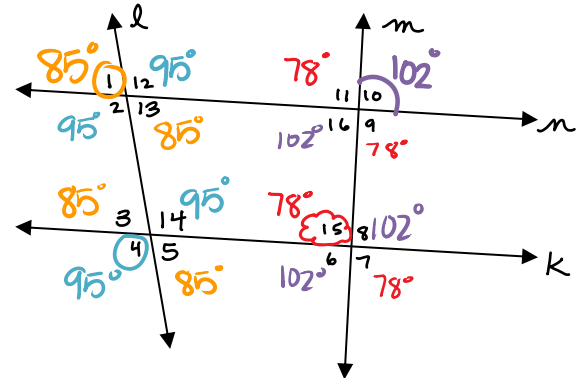


### 3.2 Homework: Angles Formed by Lines and Transversals

Directions: Use the diagram at the right to answer the questions below.

For 1-4, identify each angle pair.

1.  $\angle 1$  and  $\angle 9$ ? alternate exterior  $\angle$ 's
2.  $\angle 6$  and  $\angle 16$ ? Corresponding  $\angle$ 's
3.  $\angle 3$  and  $\angle 5$ ? vertical  $\angle$ 's
4.  $\angle 11$  and  $\angle 13$ ? alternate interior  $\angle$ 's



5. **Given:** line  $n$  is parallel to line  $k$

$m\angle 1 = 85^\circ, m\angle 4 = 95^\circ, m\angle 15 = 78^\circ,$  and  $m\angle 10 = 102^\circ$

6. **Find** the measures of the remaining angles using vertical angles and linear pair angles.

$m\angle 2 = 95^\circ$	$m\angle 3 = 85$	$m\angle 5 = 85^\circ$	$m\angle 6 = 102^\circ$
$m\angle 7 = 78^\circ$	$m\angle 8 = 102^\circ$	$m\angle 9 = 78^\circ$	$m\angle 11 = 78^\circ$
$m\angle 12 = 95^\circ$	$m\angle 13 = 85^\circ$	$m\angle 14 = 95^\circ$	$m\angle 16 = 102^\circ$

7. With your hand, cover up line  $l$ . List all the pairs of...

- Corresponding Angles  $\angle 10 + \angle 8; \angle 9 + \angle 7; \angle 11 + \angle 15; \angle 16 + \angle 6$
- Alternate Interior Angles  $\angle 16 + \angle 8; \angle 9 + \angle 15$
- Alternate Exterior Angles  $\angle 11 + \angle 7; \angle 10 + \angle 6$
- Same Side Interior Angles  $\angle 16 + \angle 15; \angle 9 + \angle 8$
- Same Side Exterior Angles  $\angle 11 + \angle 6; \angle 10 + \angle 7$

9. Based on your answers to question 7...

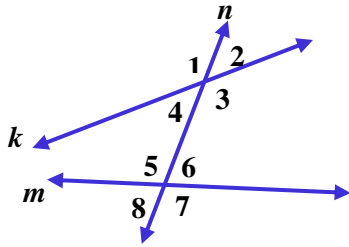
When **two parallel lines** are cut by a transversal, are the angles congruent or supplementary?

- Corresponding Angles are  $\cong$
- Alternate Interior Angles are  $\cong$
- Alternate Exterior Angles are  $\cong$
- Same Side Interior Angles are Supplementary
- Same Side Exterior Angles are Supplementary

*Write About It!*

3.1/3.2 Performance Tasks

10. In the figure below, you are given the measure of  $\angle 1$ .



★ If you need help, try plugging in a number to help you work through the process!

★ Be thorough in your explanation!



a. Explain how you would determine the measures of angle  $\angle 2$ ,  $\angle 3$ , and  $\angle 4$ .

b. Can you find the measures of  $\angle 5$ ,  $\angle 6$ ,  $\angle 7$ , and  $\angle 8$ ? If so, how? If not, why not?

11. In the figure below, you are given that line  $k$  is parallel to line  $m$  and the measure of  $\angle 1$ . Explain how you would find the measure of all other angles.

