

***Alternate Interior  
Angles***

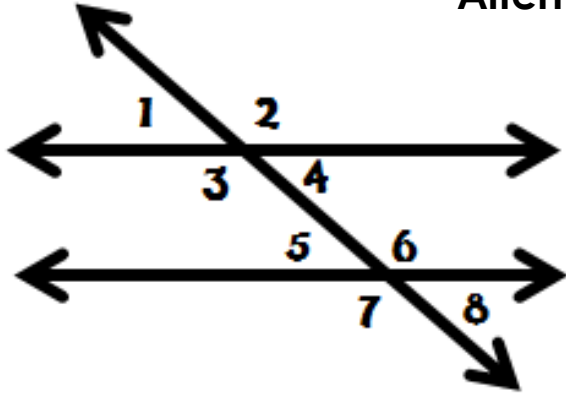
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***Alternate Exterior  
Angles***

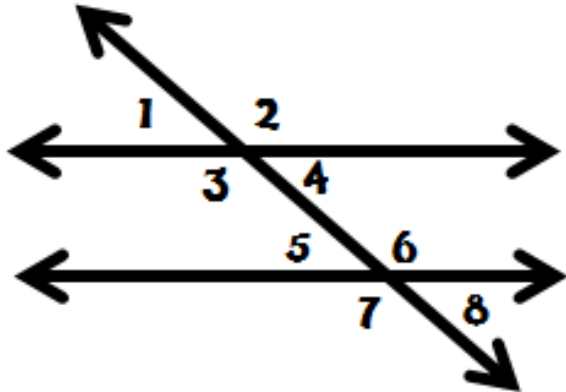
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***Corresponding  
Angles***

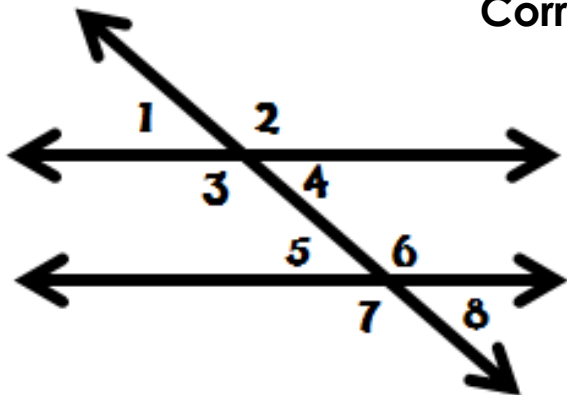
## Alternate Interior Angles



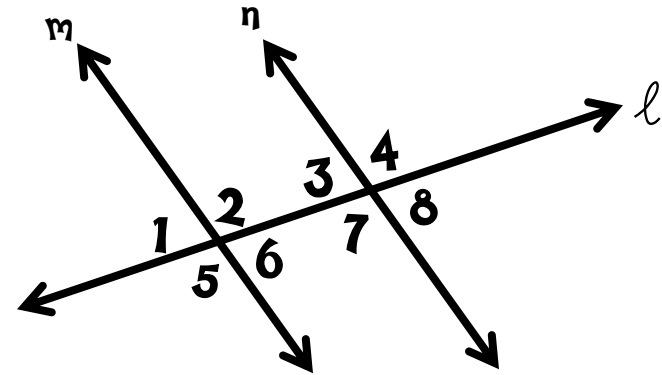
## Alternate Exterior Angles



## Corresponding Angles



## Practice



Use the figure above to answer the following questions.

- Which lines are parallel? \_\_\_\_\_
- Which line is the transversal? \_\_\_\_\_
- Name all angles congruent to  $\angle 1$  \_\_\_\_\_
- Name all angles congruent to  $\angle 2$  \_\_\_\_\_
- Name three pairs of supplementary angles  
\_\_\_\_\_
- What relationship exists among  $\angle 1$  and  $\angle 8$ ?  
\_\_\_\_\_
- What relationship exists among  $\angle 5$  and  $\angle 7$ ?  
\_\_\_\_\_
- What relationship exists among  $\angle 2$  and  $\angle 7$ ?  
\_\_\_\_\_
- If  $m\angle 1$  is  $72^\circ$ , what is  $m\angle 5$ ? \_\_\_\_\_
- If  $m\angle 2$  is  $105^\circ$ , what is  $m\angle 7$ ? \_\_\_\_\_
- If  $m\angle 4$  is  $102^\circ$ , what is  $m\angle 5$ ? \_\_\_\_\_
- If  $m\angle 8$  is  $76^\circ$ , what is  $m\angle 6$ ? \_\_\_\_\_
- If  $m\angle 6$  is  $74^\circ$ , what is  $m\angle 4$ ? \_\_\_\_\_

***Alternate Interior  
Angles***

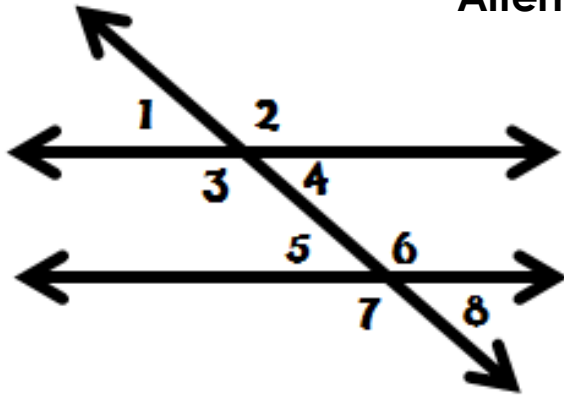
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***Alternate Exterior  
Angles***

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***Corresponding  
Angles***

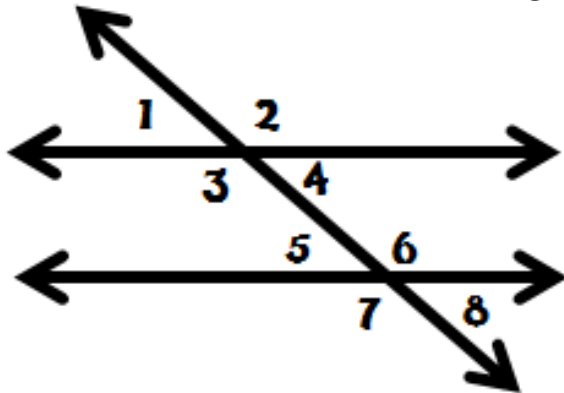
## Alternate Interior Angles



$$\angle 3 \cong \angle 6$$

$$\angle 4 \cong \angle 5$$

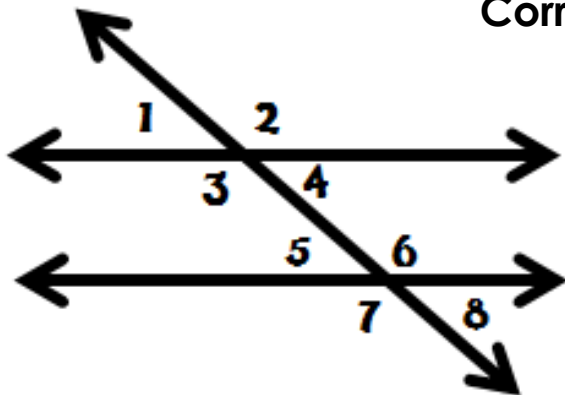
## Alternate Exterior Angles



$$\angle 1 \cong \angle 8$$

$$\angle 2 \cong \angle 7$$

## Corresponding Angles



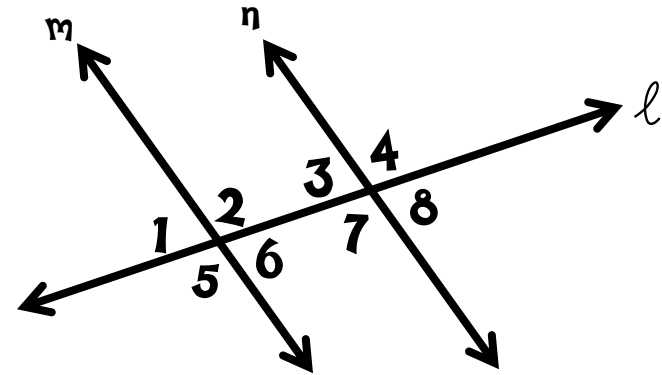
$$\angle 1 \cong \angle 5$$

$$\angle 3 \cong \angle 7$$

$$\angle 2 \cong \angle 6$$

$$\angle 4 \cong \angle 8$$

## Practice



Use the figure above to answer the following questions.

- Which lines are parallel? m is parallel to n
- Which line is the transversal? Line l
- Name all angles congruent to  $\angle 1$   $\angle 6, \angle 3, \angle 8$
- Name all angles congruent to  $\angle 2$   $\angle 5, \angle 4, \angle 7$
- Name three pairs of supplementary angles  
 $\angle 1$  &  $\angle 2$        $\angle 2$  &  $\angle 6$        $\angle 7$  &  $\angle 8$
- What relationship exists among  $\angle 1$  and  $\angle 8$ ?  
alternate exterior angles
- What relationship exists among  $\angle 5$  and  $\angle 7$ ?  
corresponding angles
- What relationship exists among  $\angle 2$  and  $\angle 7$ ?  
alternate interior angles
- If  $m\angle 1$  is  $72^\circ$ , what is  $m\angle 5$ ?  $108^\circ$
- If  $m\angle 2$  is  $105^\circ$ , what is  $m\angle 7$ ?  $105^\circ$
- If  $m\angle 4$  is  $102^\circ$ , what is  $m\angle 5$ ?  $102^\circ$
- If  $m\angle 8$  is  $76^\circ$ , what is  $m\angle 6$ ?  $76^\circ$
- If  $\angle 6$  is  $74^\circ$ , what is  $m\angle 4$ ?  $106^\circ$

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transversal  
 $m \parallel n$   
 Alternate Interior Angles

$\angle 4 \cong \angle 5$   
 $\angle 3 \cong \angle 6$

Alternate Exterior Angles

$\angle 2 \cong \angle 7$   
 $\angle 1 \cong \angle 8$

9.2: Parallel Lines cut by a Transversal 2-28

Practice

Use the figure above to answer the following questions.

- Which lines are parallel?  $m \parallel n$
- Which line is the transversal?  $l$
- Name all angles congruent to  $\angle 1$ :  $\angle 8, \angle 6, \angle 3$
- Name all angles congruent to  $\angle 2$ :  $\angle 7, \angle 5$
- Name three pairs of supplementary angles:  
 $\angle 1 + \angle 2$      $\angle 3 + \angle 4$      $\angle 7 + 8$
- What relationship exists among  $\angle 1$  and  $\angle 8$ ?  
 alternate exterior

Corresponding Angles