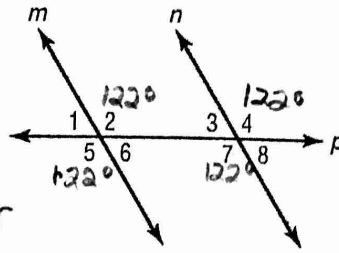


## Lesson 1 Skills Practice

### Lines

For Exercises 1-12, use the figure at the right.  
In the figure, line  $m$  is parallel to line  $n$ .

Classify each pair of angles as *alternate interior*, *alternate exterior*, or *corresponding*.



1.  $\angle 1$  and  $\angle 8$  alternate exterior
2.  $\angle 5$  and  $\angle 7$  corresponding
3.  $\angle 3$  and  $\angle 6$  alternate interior
4.  $\angle 2$  and  $\angle 4$  corresponding
5.  $\angle 2$  and  $\angle 7$  alternate interior
6.  $\angle 4$  and  $\angle 5$  alternate exterior

If  $m\angle 4 = 122^\circ$ , find each given angle measure. Justify your answer.

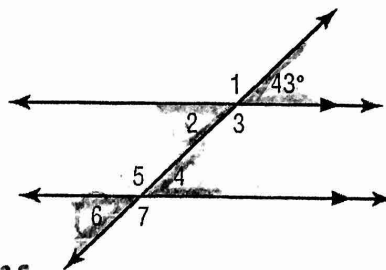
\*Answers may vary

7.  $m\angle 8 = 58^\circ \rightarrow \angle 4$  &  $\angle 8$  are supplementary ( $180 - 122 = 58$ )
8.  $m\angle 5 = 122^\circ \rightarrow \angle 4$  &  $\angle 5$  are alternate exterior angles
9.  $m\angle 2 = 122^\circ \rightarrow \angle 4$  &  $\angle 2$  are corresponding angles
10.  $m\angle 1 = 58^\circ \rightarrow \angle 1$  &  $\angle 2$  are supplementary angles
11.  $m\angle 6 = 58^\circ \rightarrow \angle 1$  &  $\angle 6$  are vertical angles
12.  $m\angle 7 = 122^\circ \rightarrow \angle 4$  &  $\angle 7$  are vertical angles

For Exercises 13 and 14, use the figure at the right.

13. List all the angles congruent to the given angle.  
Explain your reasoning.

$\angle 2$  - vertical angles  
 $\angle 4$  - corresponding angles  
 $\angle 6$  - alternate exterior angles



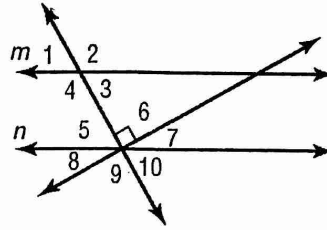
14. List all the angles congruent to  $\angle 5$ . Explain your reasoning.

$\angle 7$  - vertical angles  
 $\angle 1$  - corresponding angles  
 $\angle 3$  - alternate interior angles

# Lesson 1 Homework Practice

## Lines

For Exercises 1-6, use the figure at the right. In the figure, line  $m$  is parallel to line  $n$ :



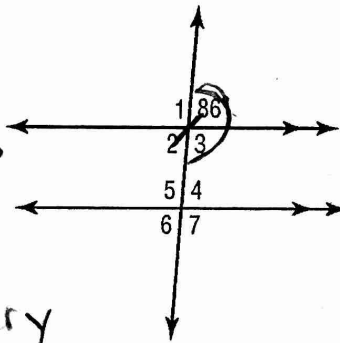
List all pairs of each type of angle.

1. vertical  $\angle 1 \& \angle 3, \angle 2 \& \angle 4, \angle 5 \& \angle 10, \angle 6 \& \angle 8, \angle 7 \& \angle 9$
- 90° 2. complementary  $\angle 7 \& \angle 10, \angle 5 \& \angle 7, \angle 5 \& \angle 8, \angle 8 \& \angle 10, \angle 8 \& \angle 1$
- 180° 3. supplementary  $\angle 1 \& \angle 2, \angle 2 \& \angle 3, \angle 3 \& \angle 4, \angle 1 \& \angle 4, \angle 5 \& \angle 2, \angle 5 \& \angle 4, \angle 10 \& \angle 2, \angle 4 \& \angle 10$
4. corresponding  $\angle 1 \& \angle 5, \angle 3 \& \angle 10$
5. alternate interior  $\angle 3 \& \angle 5$
6. alternate exterior  $\angle 1 \& \angle 10$

Use the figure at the right for Exercises 7-10.

7. Find the measure of  $\angle 2$ . Explain your reasoning.

$86^\circ \rightarrow$  vertical angles



8. Find the measure of  $\angle 3$ . Explain your reasoning.

$180 - 86$

$94^\circ \rightarrow$  Supplementary

9. Find the measure of  $\angle 4$ . Explain your reasoning.

$86^\circ \rightarrow$  corresponding angle

10. Find the measure of  $\angle 6$ . Explain your reasoning.

$86^\circ \rightarrow$  alternate exterior angles

11. ALGEBRA Angles  $A$  and  $B$  are corresponding angles formed by two parallel lines cut by a transversal. If  $m\angle A = 4x$  and  $m\angle B = 3x + 7$ , find the value of  $x$ . Explain.

$\angle A = \angle B$

$x = 7$

$4x = 3x + 7$   
 $-3x \quad -3x$

12. ALGEBRA Angles  $G$  and  $H$  are supplementary and congruent. If  $\angle G$  and  $\angle H$  are alternate interior angles, what is the measure of each angle?

$\angle G + \angle H = 180^\circ$

$\angle G = \angle H$

$\angle G = 90^\circ$

$\angle H = 90^\circ$