Name _____ Class _____ Date _____

Reteaching 3-1

Properties of Parallel Lines

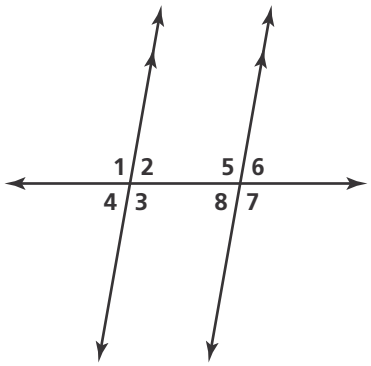
OBJECTIVE: Relating the measures of angles formed by parallel lines and a transversal

MATERIALS: Ruler, protractor

Example

If $m\angle 1 = 100$, find the measure of each of the other seven angles.

$m\angle 1 + m\angle 2 = 180; m\angle 2 = 80$	Supplementary angles
$m\angle 1 + m\angle 4 = 180; m\angle 4 = 80$	Supplementary angles
$\angle 1 \cong \angle 3; m\angle 3 = 100$	Vertical angles
$\angle 3 \cong \angle 5; m\angle 5 = 100$	Alternate interior angles
$m\angle 3 + m\angle 8 = 180; m\angle 8 = 80$	Same-side interior angles
$\angle 3 \cong \angle 7; m\angle 7 = 100$	Corresponding angles
$m\angle 6 + m\angle 7 = 180; m\angle 6 = 80$	Supplementary angles



Exercises

Complete the following to find measures of angles associated with a pair of parallel lines and a transversal.

1. **a.** Draw a pair of parallel lines using lined paper or the edges of a ruler. Then draw a transversal that intersects the two parallel lines.

   b. Use a protractor to measure one of the angles formed. Record the measure on your drawing.

   c. Find the measures of the other seven angles without measuring.

   d. Verify the angle measures by measuring each with a protractor.

Find the measure of each angle in the diagram at the right.

2. $m\angle 1$
3. $m\angle 2$
4. $m\angle 4$
5. $m\angle 5$
6. $m\angle 6$
7. $m\angle 7$
8. $m\angle 8$