NAME _____ DATE _____

Reteaching with Practice

For use with pages 143–149

GOAL **Prove and use results about parallel lines and transversals and use properties of parallel lines to solve problems**

VOCABULARY

Postulate 15 *Corresponding Angles Postulate* If two parallel lines are cut by a transversal, then the pairs of corresponding angles are congruent.

Theorem 3.4 If two parallel lines are cut by a transversal, then the pairs of alternate interior angles are congruent.

Theorem 3.5 If two parallel lines are cut by a transversal, then the pairs of consecutive interior angles are supplementary.

Theorem 3.6 If two parallel lines are cut by a transversal, then the pairs of alternate exterior angles are congruent.

Theorem 3.7 If a transversal is perpendicular to one of two parallel lines, then it is perpendicular to the other.

EXAMPLE 1 *Using Properties of Parallel Lines*

Given that $m\angle 1 = 32°$, find each measure. Tell which postulate or theorem you use.

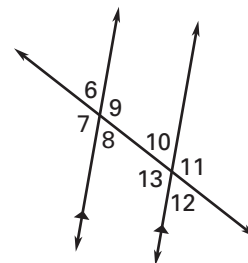**a.** $m\angle 2$

b. $m\angle 3$

c. $m\angle 4$

d. $m\angle 5$
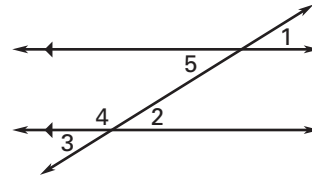
SOLUTION

a. $m\angle 2 = 32°$ Corresponding Angles Postulate

b. $m\angle 3 = 32°$ Alternate Exterior Angles Theorem

c. $m\angle 4 = 180° - m\angle 3 = 148°$ Linear Pair Postulate

d. $m\angle 5 = 32°$ Vertical Angles Theorem

Exercises for Example 1

Find each measure given that $m\angle 6 = 67°$.

1. $m\angle 7$ **2.** $m\angle 8$

3. $m\angle 9$ **4.** $m\angle 10$

5. $m\angle 11$ **6.** $m\angle 12$
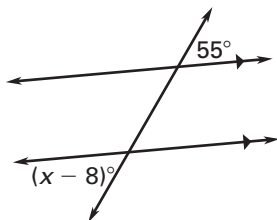
7. $m\angle 13$

Lesson 3.3

Reteaching with Practice

For use with pages 143–149

EXAMPLE 2 *Using Properties of Parallel Lines*

Use properties of parallel lines to find the value of *x*.

$55°$

$(x - 8)°$

SOLUTION

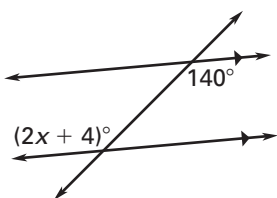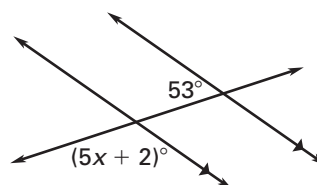$(x - 8)° = 55°$ Alternate Exterior Angles Theorem

$x = 63°$ Add.

Exercises for Example 2

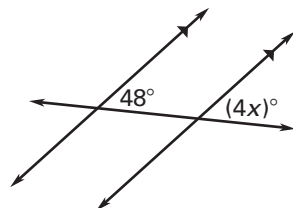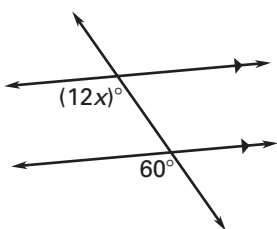**Use properties of parallel lines to find the value of *x*.**

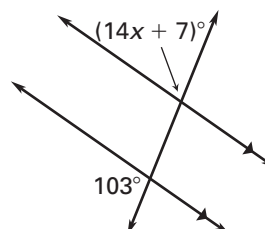**8.**

$140°$

$(2x + 4)°$

9.

$53°$

$(5x + 2)°$

10.

$48°$ $(4x)°$

11.

$98°$

$(10x - 2)°$

12.

$(12x)°$

$60°$

13.

$(14x + 7)°$

$103°$

14.

$135°$

$(4x - 3)°$

15.

$(9x + 7)°$

$115°$

Lesson 3.3