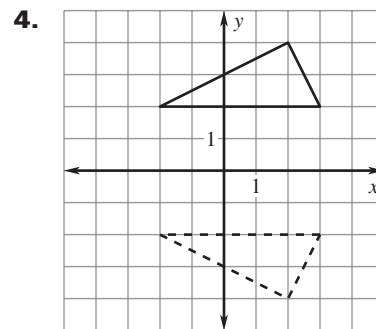
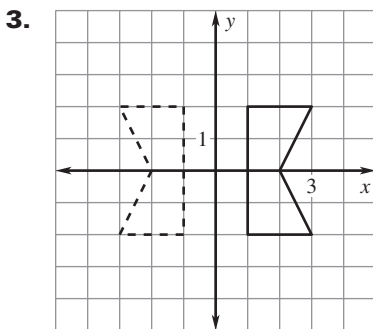
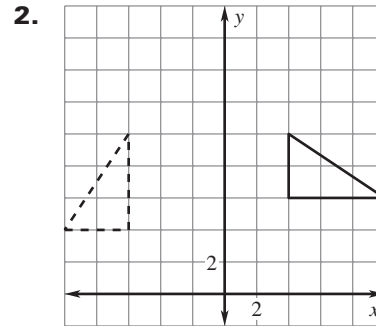
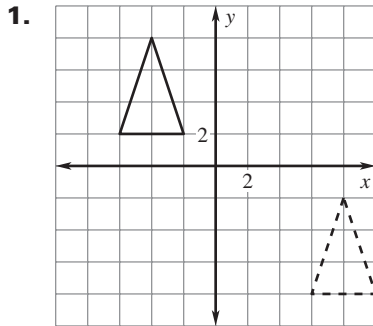
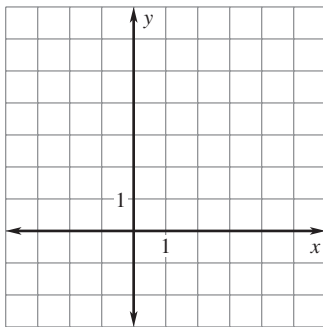


**LESSON**  
**4.8**
**Practice A**

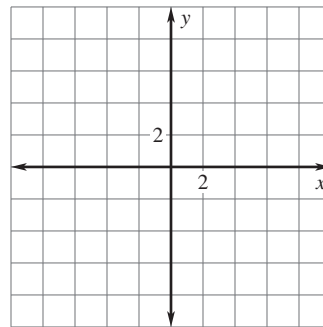
For use with pages 271–279

**Name the type of transformation shown.**


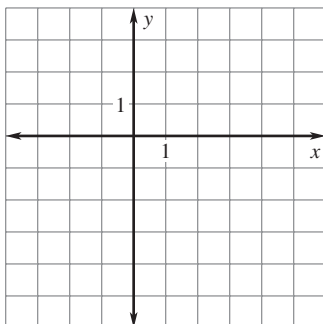
5. Figure  $ABC$  has vertices  $A(-3, 3)$ ,  $B(1, -1)$ , and  $C(0, 5)$ . Sketch  $ABC$  and draw its image after the translation  $(x, y) \rightarrow (x + 4, y + 2)$ .



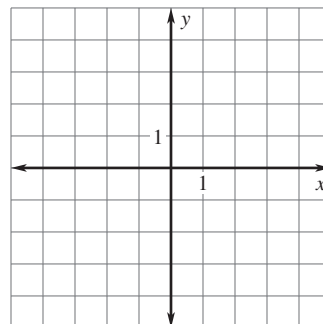
6. Figure  $ABC$  has vertices  $A(4, 2)$ ,  $B(2, 6)$ , and  $C(6, 6)$ . Sketch  $ABC$  and draw its image after the translation  $(x, y) \rightarrow (x - 6, y - 3)$ .



7. Figure  $ABCD$  has vertices  $A(0, -5)$ ,  $B(0, -2)$ ,  $C(-3, 2)$ , and  $D(-2, -4)$ . Sketch  $ABCD$  and draw its image after the translation  $(x, y) \rightarrow (x + 5, y + 1)$ .



8. Figure  $ABCD$  has vertices  $A(3, -4)$ ,  $B(4, -1)$ ,  $C(3, -2)$ , and  $D(1, -3)$ . Sketch  $ABCD$  and draw its image after the translation  $(x, y) \rightarrow (x - 6, y + 5)$ .

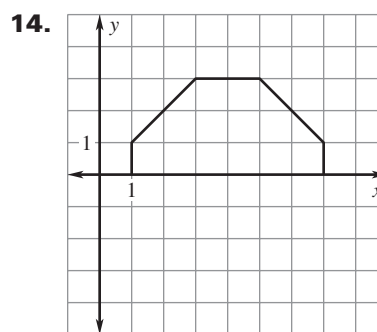
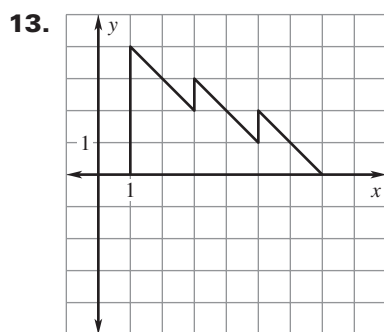
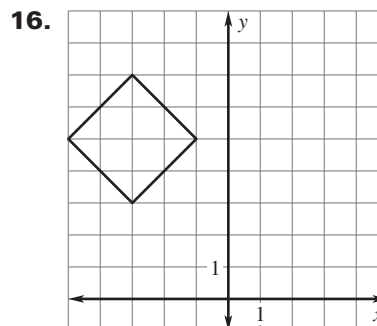
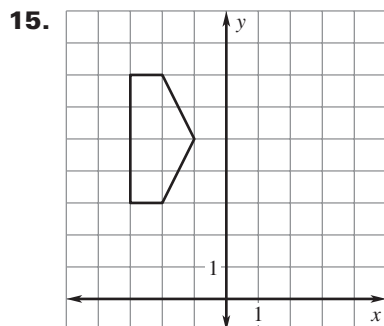


LESSON  
4.8**Practice A** *continued*  
For use with pages 271–279**Use coordinate notation to describe the translation.**

9. 5 units to the right, 3 units down                      10. 9 units to the left, 7 units up

**Complete the statement using the description of the translation. In the description, points (2, 3) and (4, 2) are two vertices of a triangle.**

11. If (2, 3) translates to (10, -4), then (4, 2) translates to   ?  .  
12. If (2, 3) translates to (-1, 8), then (4, 2) translates to   ?  .

**Use a reflection in the  $x$ -axis to draw the other half of the figure.****Use a reflection in the  $y$ -axis to draw the other half of the figure.****Use the coordinates to graph  $\overline{AB}$  and  $\overline{CD}$ . Tell whether  $\overline{CD}$  is a rotation of  $\overline{AB}$  about the origin. If so, give the angle and direction of rotation.**

17.  $A(2, 1), B(5, 3), C(1, -2), D(3, -5)$   
18.  $A(-2, 3), B(-2, 5), C(-2, -3), D(-3, -7)$