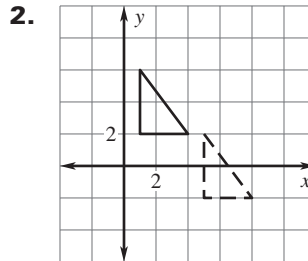**LESSON 4.8** **Practice B**
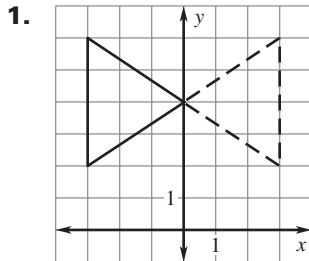*For use with pages 271–279*

Name the type of transformation shown.

1.

2.

3.
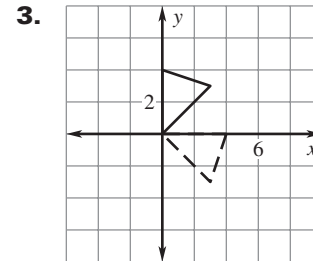
4. Figure *ABCD* has vertices $A(1, 2)$, $B(4, -3)$, $C(5, 5)$, and $D(4, 7)$. Sketch *ABCD* and draw its image after the translation $(x, y) \rightarrow (x + 5, y + 3)$.
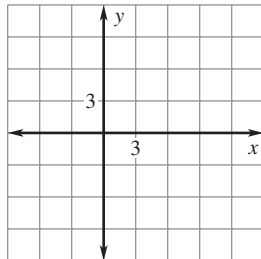
5. Figure *ABCD* has vertices $A(-2, 3)$, $B(1, 7)$, $C(6, 2)$, and $D(-1, -2)$. Sketch *ABCD* and draw its image after the translation $(x, y) \rightarrow (x - 2, y - 4)$.
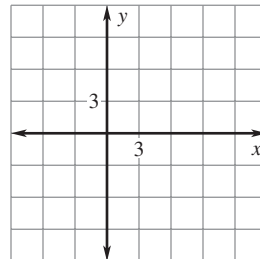
6. Figure *ABCD* has vertices $A(3, -1)$, $B(6, -2)$, $C(5, 3)$, and $D(0, 4)$. Sketch *ABCD* and draw its image after the translation $(x, y) \rightarrow (x - 3, y + 2)$.
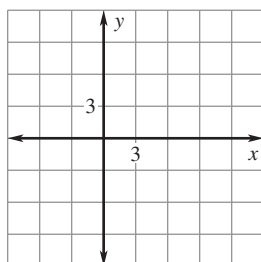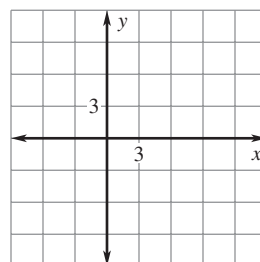
7. Figure *ABCD* has vertices $A(-1, 3)$, $B(4, -1)$, $C(6, 4)$, and $D(1, 5)$. Sketch *ABCD* and draw its image after the translation $(x, y) \rightarrow (x + 4, y - 5)$.

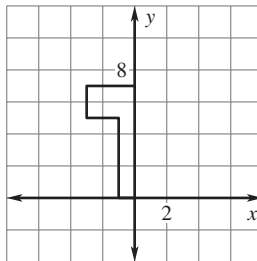**Use coordinate notation to describe the translation.**

8. 3 units to the right, 5 units down

9. 7 units to the left, 2 units down

10. 4 units to the left, 6 units up

11. 1 unit to the right, 8 units up

LESSON 4.8	**Practice B** *continued*
	For use with pages 271–279

Use a reflection in the *y*-axis to draw the other half of the figure.
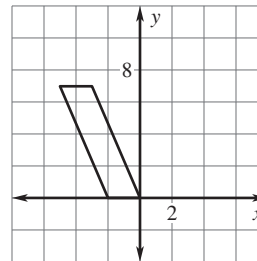
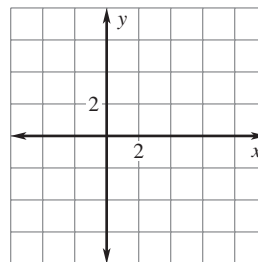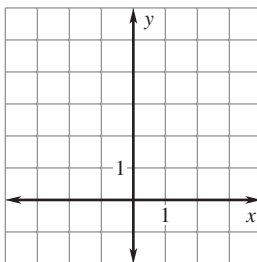**12.**
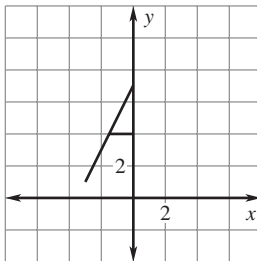
13.

14.

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.

15. $A(-2, 5), B(-2, 0), C(0, 1), D(3, 1)$

16. $A(1, 4), B(4, 1), C(1, -4), D(4, -1)$

Complete the statement using the description of the translation. In the description, points (2, 0) and (3, 4) are two vertices of a triangle.

17. If (2, 0) translates to (4, 1), then (3, 4) translates to __?__.

18. If (2, 0) translates to (−2, −1), then (3, 4) translates to __?__.

A point on an image and the translation are given. Find the corresponding point on the original figure.

19. Point on image: (2, −4); translation: $(x, y) \rightarrow (x - 4, y + 3)$

20. Point on image: (−5, −7); translation: $(x, y) \rightarrow (x, -y)$

21. **Verifying Congruence** Verify that $\triangle DEF$ is a congruence transformation of $\triangle ABC$. *Explain* your reasoning.