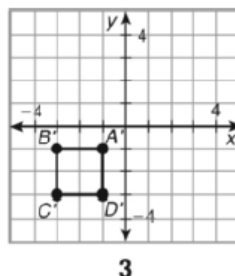
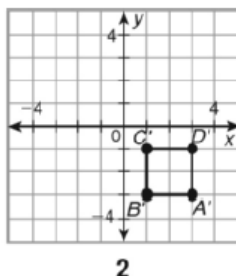
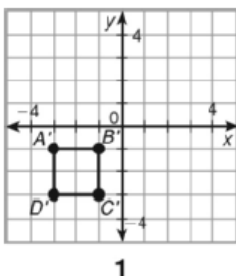
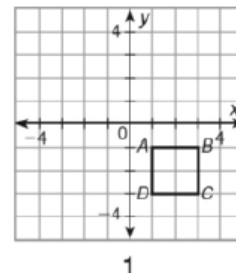


**LESSON**  
**1-7**

**Practice B**  
**Transformations in the Coordinate Plane**

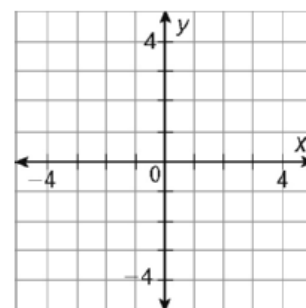
Use the figure for Exercises 1–3.

The figure in the plane at right shows the preimage in the transformation  $ABCD \rightarrow A'B'C'D'$ . Match the number of the image (below) with the name of the correct transformation.



1. rotation \_\_\_\_\_      2. translation \_\_\_\_\_      3. reflection \_\_\_\_\_

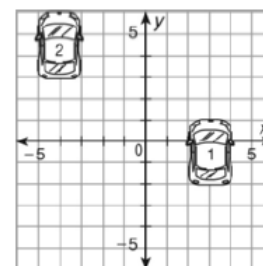
4. A figure has vertices at  $D(-2, 1)$ ,  $E(-3, 3)$ , and  $F(0, 3)$ . After a transformation, the image of the figure has vertices at  $D'(-1, -2)$ ,  $E'(-3, -3)$ , and  $F'(-3, 0)$ . Draw the preimage and the image. Then identify the transformation.



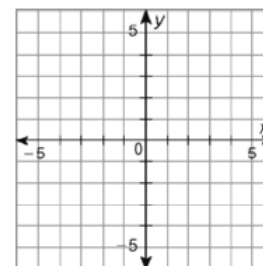
5. A figure has vertices at  $G(0, 0)$ ,  $H(-1, -2)$ ,  $I(-1.5, 0)$ , and  $J(-2.5, 2)$ . Find the coordinates for the image of  $GHIJ$  after the translation  $(x, y) \rightarrow (x - 2.5, y + 4)$ .

Use the figure for Exercise 6.

6. A parking garage attendant will make the most money when the maximum number of cars fits in the parking garage. To fit one more car in, the attendant moves a car from position 1 to position 2. Write a rule for this translation.



7. A figure has vertices at  $X(-1, 1)$ ,  $Y(-2, 3)$ , and  $Z(0, 4)$ . Draw the image of  $XYZ$  after the translation  $(x, y) \rightarrow (x - 2, y)$  and a  $180^\circ$  rotation around  $X$ .



answers

### Practice B

1. 2

2. 1

3. 3

4. rotation

5.  $G'(-2.5, 4)$ ,  $H'(-3.5, 2)$ ,  $I'(-4, 4)$ ,  $J'(-5, 6)$

6.  $(x, y) \rightarrow (x - 7, y + 5)$

