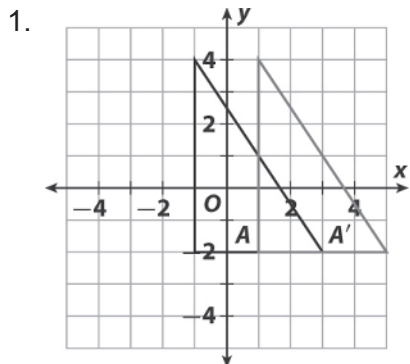


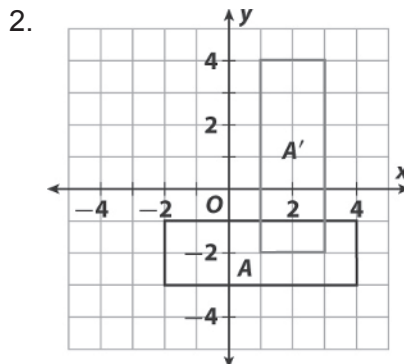
LESSON
9-4

Algebraic Representations of Transformations

Practice and Problem Solving: C

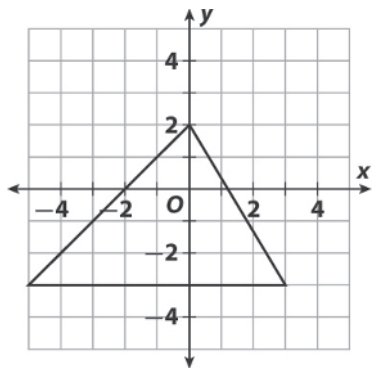
Write an algebraic rule to describe each transformation of figure A to figure A'. Then describe the transformation.



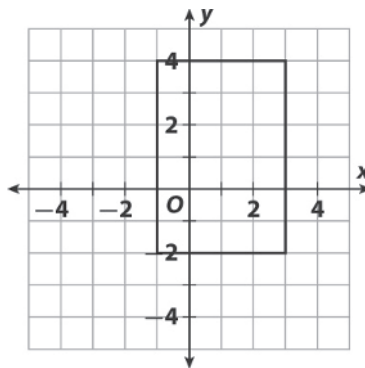


Use the given rule to graph the image of each figure. Then describe the transformation.

3. $(x, y) \rightarrow (x, -y)$



4. $(x, y) \rightarrow (-x, -y)$



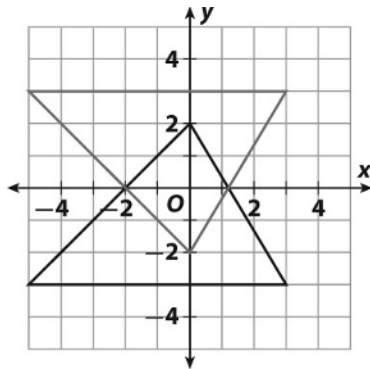
Solve.

5. Triangle ABC has vertices A(2, -1), B(0, 0), and C(-1, 4). State a rule for an algebraic transformation where vertex B will **not** be at the origin.

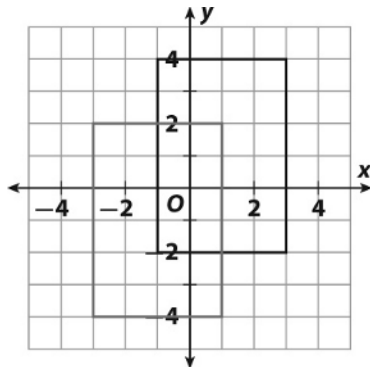
6. Triangle LMN has L at (1, -1) and M at (2, 3). Triangle L'M'N' has L' at (-1, -1), M' is at (3, -2), and N' is at (-3, 0). What are the coordinates of vertex N'? Describe the transformation.

Practice and Problem Solving: C

1. $(x, y) \rightarrow (x + 2, y)$; translation right 2 units
2. $(x, y) \rightarrow (-y, x)$; rotation 90° counterclockwise
3. reflection over the x-axis



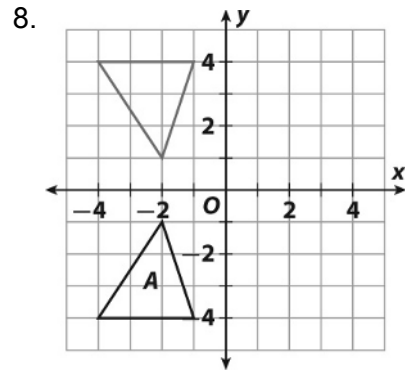
4. rotation of 180°



5. Possible answer: $(x, y) \rightarrow (x + 2, y)$
6. $(0, -3)$; rotation of 90° clockwise

Practice and Problem Solving: D

1. $(x, y) \rightarrow (-x, -y)$; rotation 180° clockwise OR counterclockwise
2. $(x, y) \rightarrow (x, y + 5)$; translation up 5 units
3. $(x, y) \rightarrow (-x, y)$; reflection over the y-axis
4. $(x, y) \rightarrow (y, -x)$; rotation 90° clockwise
5. $(-4, 4)$
6. $(-1, 4)$
7. $(-2, 1)$



Reteach

1. reflection over the y-axis
2. 90° rotation counterclockwise
3. translation up 4 units
4. 180° rotation
5. reflection over the x-axis

Reading Strategies

1. translation up 2 units
2. 90° rotation clockwise
3. 180° rotation
4. reflection over the y-axis

Success for English Learners

1. reflection or rotation
2. translation
3. rotation
4. rotation 90° clockwise
5. translation right 2 units
6. reflection over x-axis

LESSON 9-5

Practice and Problem Solving: A/B

1. rotation 90° counterclockwise
2. translation right 4 units
3. $(x, y) \rightarrow (-y, x)$; $(x, y) \rightarrow (x + 4, y)$