**LESSON
10-3**

Similar Figures

Practice and Problem Solving: A/B

Identify a sequence of transformations that will transform figure *A* into figure *C*. Express each transformation algebraically.
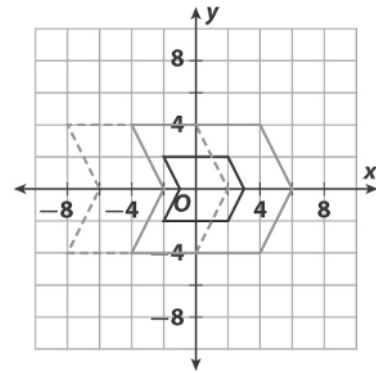
1. What transformation is used to transform figure *A* to figure *B*?

   —— Figure *A*

   —— Figure *B*

   ‒ ‒ Figure *C*

   _____

2. What transformation is used to transform figure *B* to figure *C*?

   _____

3. Name two figures that are congruent. _____

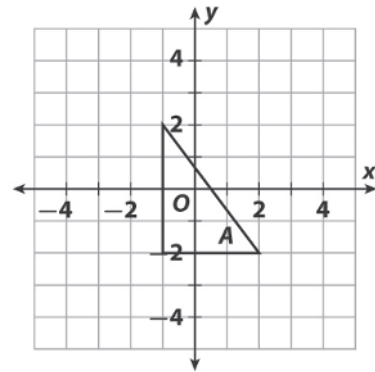4. Name two figures that are similar, but not congruent. _____

Complete each transformation.

5. Transform figure *A* to figure *B* by applying $(x, y) \rightarrow (2x, 2y)$.

6. Transform figure *B* to figure *C* by rotating it 90° clockwise around the origin.

7. Name two figures that are congruent.

   _____

8. Name two figures that are similar, but not congruent.

   _____

Geraldo designed a flag for his school. He started with △*ABC*. He used centimeter grid paper. To create the actual flag, the drawing must be dilated using a scale factor of 50. Express each transformation algebraically.

9. What transformation was used to create △*CBD* from △*ABC*?

   _____

10. How long will each side of the actual flag *ABD* be?

    _____
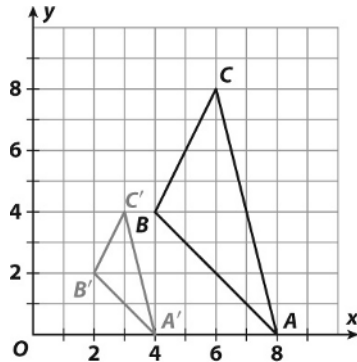
11. The principal decides he wants the flag to hang vertically with side *AD* on top. What transformation should Geraldo use on △*ABD* on his drawing so it is in the desired orientation?

    _____
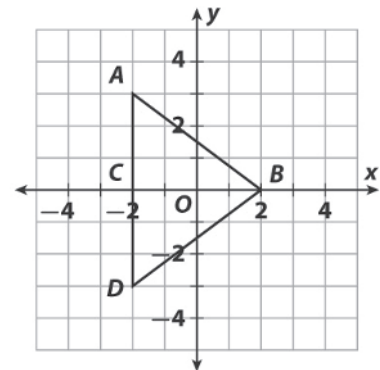
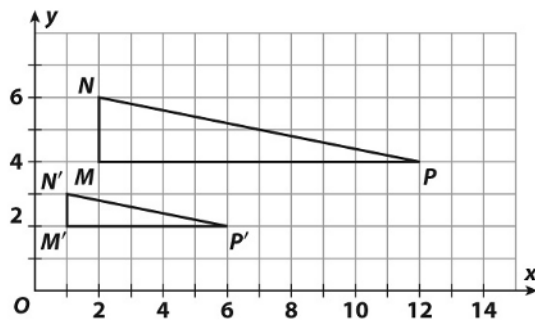2. $A(8, 0) \rightarrow A'\left(\frac{1}{2} \cdot 8, \frac{1}{2} \cdot 0\right)$ or $A'(4, 0)$

$B(4, 4) \rightarrow B'\left(\frac{1}{2} \cdot 4, \frac{1}{2} \cdot 4\right)$ or $B'(2, 2)$

$C(6, 8) \rightarrow C'\left(\frac{1}{2} \cdot 6, \frac{1}{2} \cdot 8\right)$ or $C'(3, 4)$

Reading Strategies

1. Sample answer:

2. Sample answer: In an enlargement, the image is larger than the original figure. In a reduction, the image is smaller than the original figure.
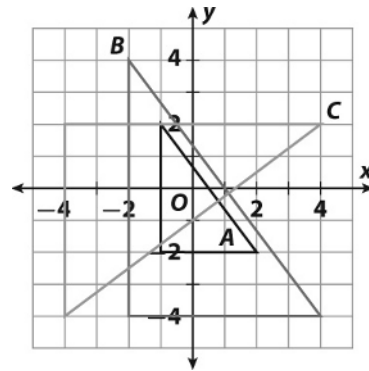
Success for English Learners

1. reduction
2. enlargement

LESSON 10-3

Practice and Problem Solving: A/B

1. $(x, y) \rightarrow (2x, 2y)$
2. $(x, y) \rightarrow (x - 4, y)$
3. Figures B and C
4. Figures A and B or Figures A and C

5–6.

7. Figures B and C
8. Figures A and B or Figures A and C
9. $(x, y) \rightarrow (x, -y)$
10. $AB = 250$ cm; $BD = 250$ cm; $AD = 300$ cm
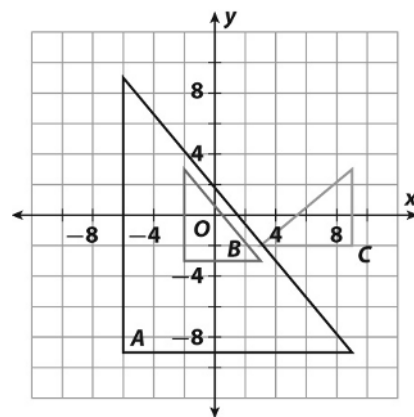11. $(x, y) \rightarrow (y, -x)$

Practice and Problem Solving: C

1. $(x, y) \rightarrow \left(\frac{1}{2}x, \frac{1}{2}y\right)$

2. Sample answer: $(x, y) \rightarrow (x, -y)$; $(x, y) \rightarrow (x + 5, y)$

3. Figures A and B or Figures A and C

4–5.

6. $(3, 4)$