

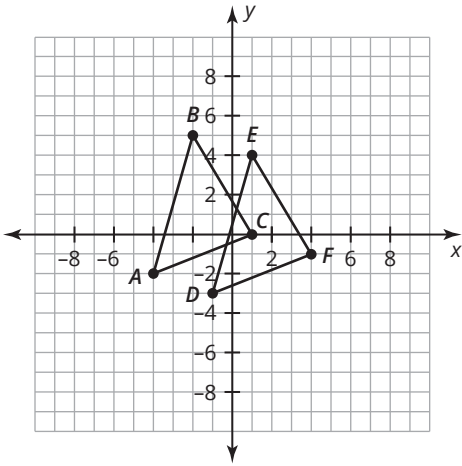
# Enhanced End of Topic Assessment

Name \_\_\_\_\_ Date \_\_\_\_\_

## Part A: Multiple-Choice Questions

1. Dianne drew a triangle with coordinates  $(1, 3)$ ,  $(3, 2)$ , and  $(4, 2)$ . She drew an image of the triangle with coordinates  $(-1, 3)$ ,  $(-3, 2)$ , and  $(-4, 2)$ . Which rule describes the transformation?
  - a.  $(x, y) \rightarrow (-x, y)$
  - b.  $(x, y) \rightarrow (x, -y)$
  - c.  $(x, y) \rightarrow (x - 2, y)$
  - d.  $(x, y) \rightarrow (x, y - 2)$
  
2. John draws a square on a coordinate plane. Then, he draws an image of the square 3 units to the right of the original square. Which statement below is true?
  - a. Each side length of the image is 3 times the corresponding side length of the original figure.
  - b. The sum of the angle measures of the original figure is 180 degrees less than the sum of the angle measures of the image.
  - c. The area of the image is larger than the area of the original figure.
  - d. The corresponding angle measures of the original figure and the image are equal.

3. Which rule best describes the transformation used to create  $\triangle DEF$  from  $\triangle ABC$ ?



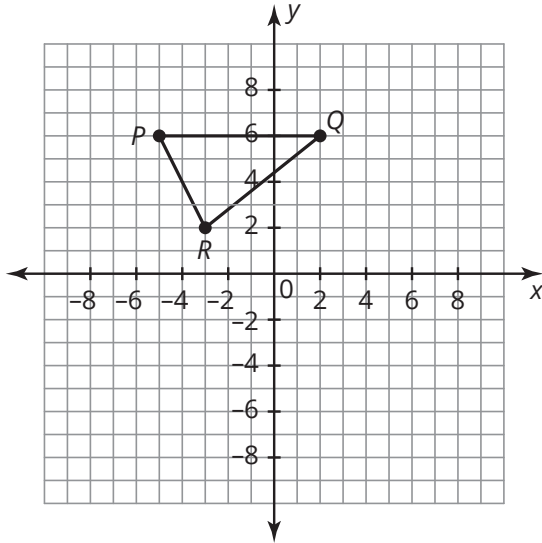
- a.  $(x, y) \rightarrow (-x, y)$
- b.  $(x, y) \rightarrow (x + 3, y - 1)$
- c.  $(x, y) \rightarrow (-y, x)$
- d.  $(x, y) \rightarrow (x + 1, y - 3)$

4. A trapezoid was transformed on a coordinate grid using the rule  $(x, y) \rightarrow (-x, y)$ . Which of the following describes this transformation?

- a. A  $90^\circ$  clockwise rotation about the origin
- b. A  $180^\circ$  clockwise rotation about the origin
- c. A reflection across the  $y$ -axis
- d. A reflection across the  $x$ -axis

**Part B: Open-Response Questions**

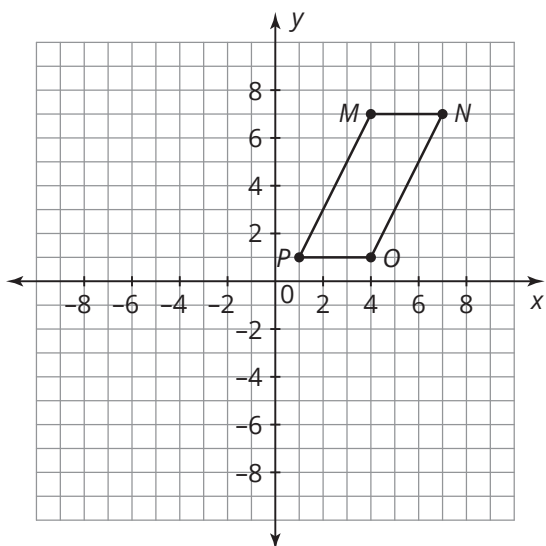
5. Look at the triangle shown on the coordinate plane.



Translate triangle  $PQR$  4 units right and 7 units down. Label the image  $P'Q'R'$ . How are the values in the ordered pairs affected by the translation? Write the algebraic rule for the translation.

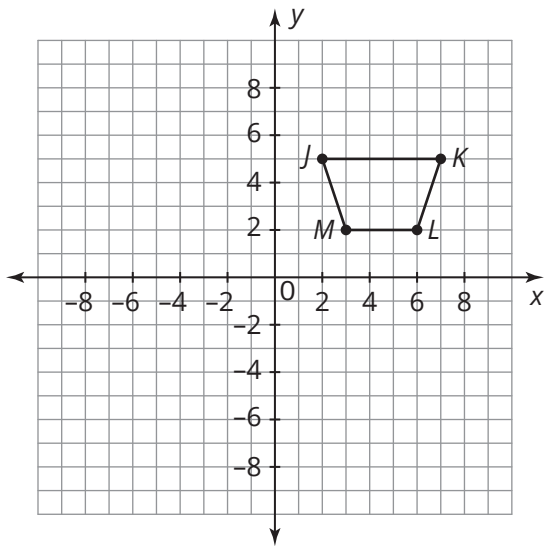
6. Yoshi drew parallelogram  $EFGH$ . Then, he reflected it using the rule  $(x, y) \rightarrow (-x, y)$  to create parallelogram  $E'F'G'H'$ . Line segment  $FG$  is 3 inches.
- How long is  $\overline{F'G'}$ ? Explain your reasoning.
  - If the measure of  $\angle E$  is 80 degrees, what is the measure of  $\angle E'$ ? Explain your reasoning.

7. Look at the parallelogram shown on the coordinate plane.



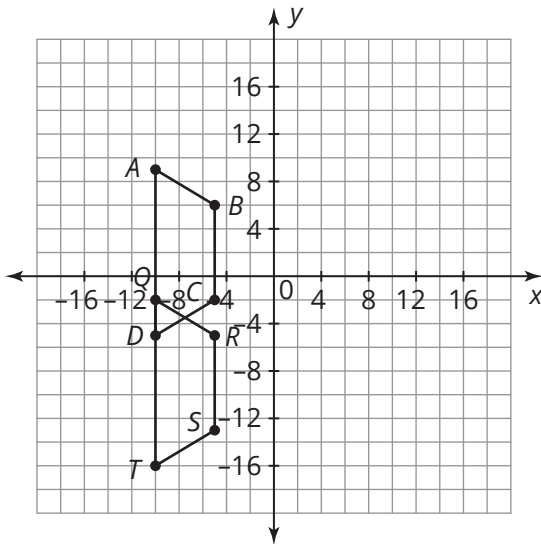
Rotate parallelogram  $MNOP$   $90^\circ$  clockwise around the origin. Label the image  $M'N'O'P'$ . Are the parallelograms congruent? Explain your reasoning.

8. Use the trapezoid shown in the coordinate plane to answer each question.



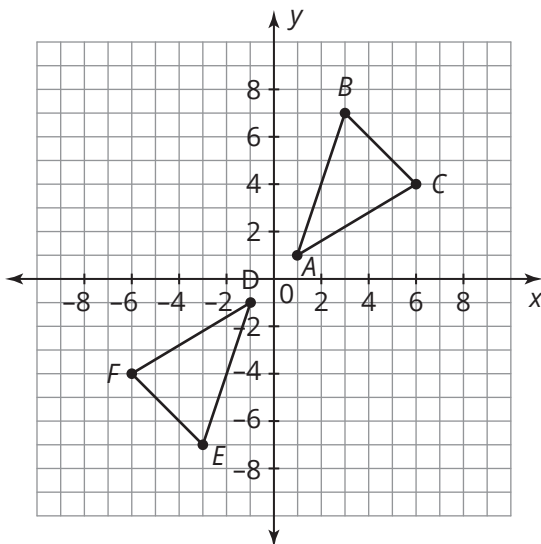
Reflect trapezoid  $JKLM$  over the  $x$ -axis and write the algebraic rule to describe this transformation.

9. Look at the congruent trapezoids shown on the coordinate plane.



Describe the transformation and write the algebraic rule used to create trapezoid  $QRST$  from trapezoid  $ABCD$ .

10. Look at the congruent triangles shown on the coordinate plane.



Describe the transformation and write an algebraic rule used to create triangle  $DEF$  from triangle  $ABC$ .

- 11.** A transformation is applied to a figure to create a new figure on the coordinate grid. Which type(s) of transformation preserve(s) congruence? Explain your reasoning.

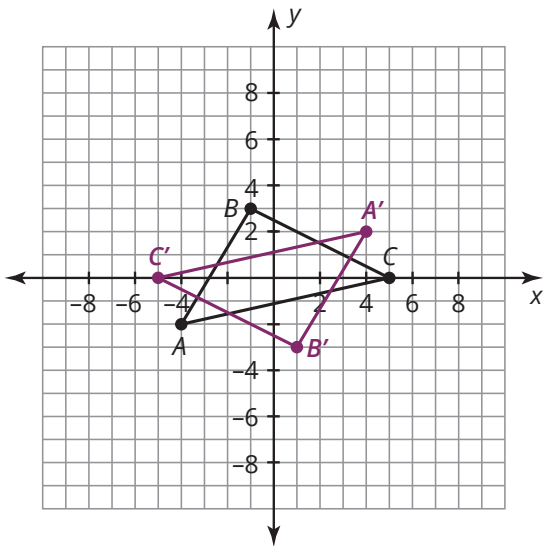
12. Complete the table below with the coordinates of the points provided given the transformations described.

Original Point	Rotation About the Origin 270° Clockwise	Reflection Over the x-axis	Reflection Over the y-axis	Translation 3 Units to the Left and 2 Units Up
(1, 4)				
(0, 3)				
(-1, 2)				
(-3, -5)				
(x, y)				

**Part C: Griddable Response Questions**

Record your answers and fill in the bubbles. Be sure to use the correct place value.

13. Triangle  $ABC$  has vertices  $A(-4, -2)$ ,  $B(-1, 3)$ , and  $C(5, 0)$ .

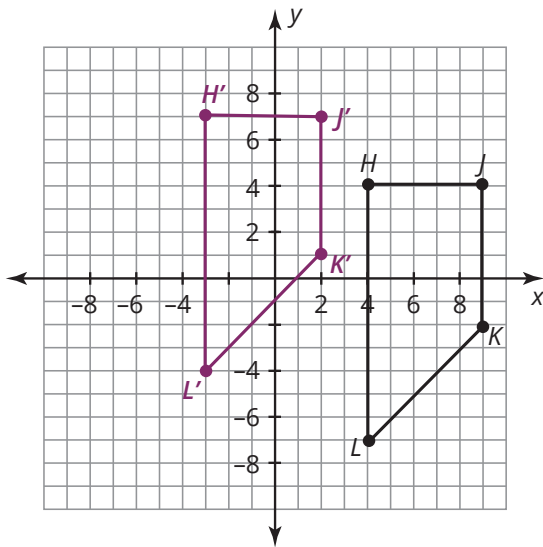


					.		
+	0	0	0	0		0	0
-	1	1	1	1		1	1
	2	2	2	2		2	2
	3	3	3	3		3	3
	4	4	4	4		4	4
	5	5	5	5		5	5
	6	6	6	6		6	6
	7	7	7	7		7	7
	8	8	8	8		8	8
	9	9	9	9		9	9

What clockwise angle of rotation about the origin was performed on triangle  $ABC$  to create triangle  $A'B'C'$ ?



14. Trapezoid  $HJKL$  was transformed to create trapezoid  $H'J'K'L'$ .



If the transformation is represented by the rule  $(x, y) \rightarrow (x + a, y + b)$ , what is the value of  $a$ ?

					.		
+	0	0	0	0		0	0
-	1	1	1	1		1	1
	2	2	2	2		2	2
	3	3	3	3		3	3
	4	4	4	4		4	4
	5	5	5	5		5	5
	6	6	6	6		6	6
	7	7	7	7		7	7
	8	8	8	8		8	8
	9	9	9	9		9	9