
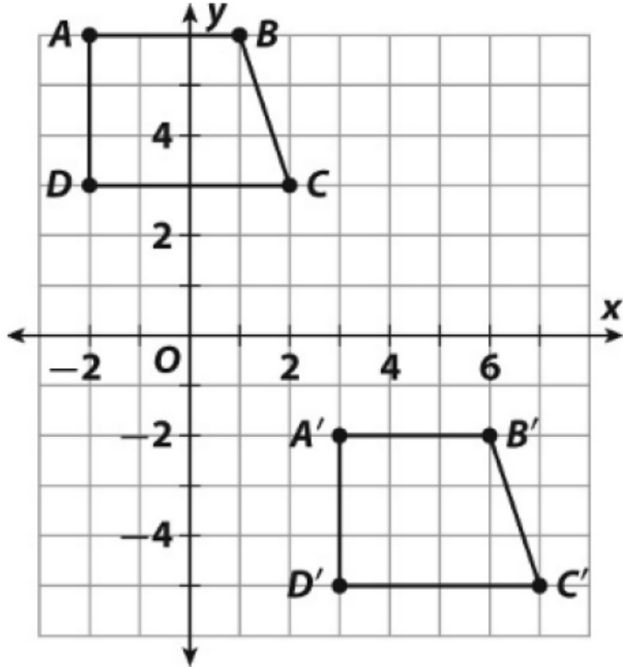
  
**Translation**

**Translation and Reflection**

  
**Assignment**

1) Describe the translation that maps point  $A$  to point  $A'$ .




---



---

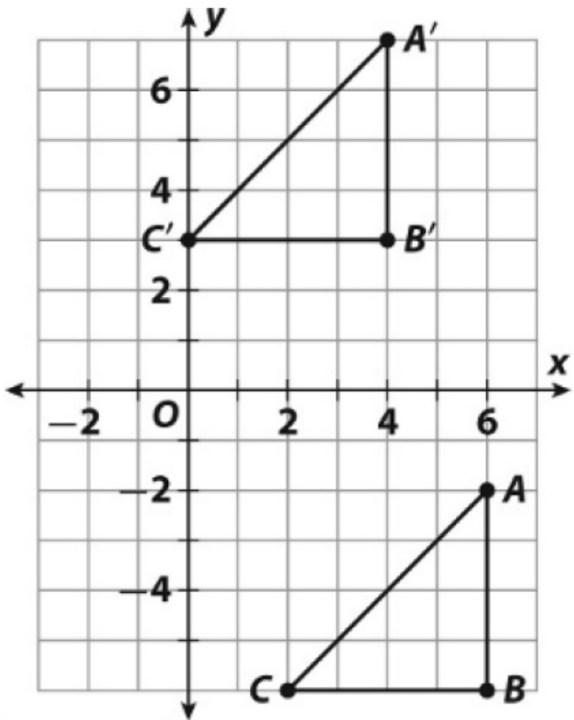


---



---

2) Describe the translation that maps point  $A$  to point  $A'$ .




---



---



---



---

Compare the pre-image and the image in the grid above

---



---

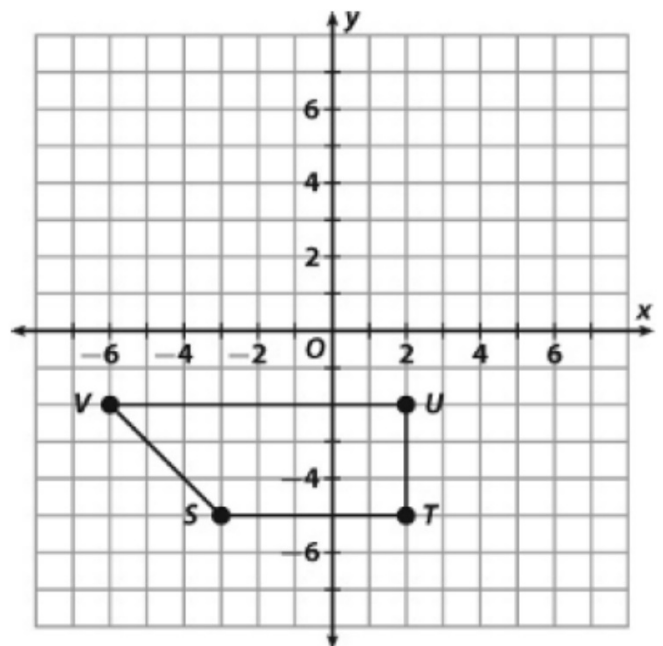
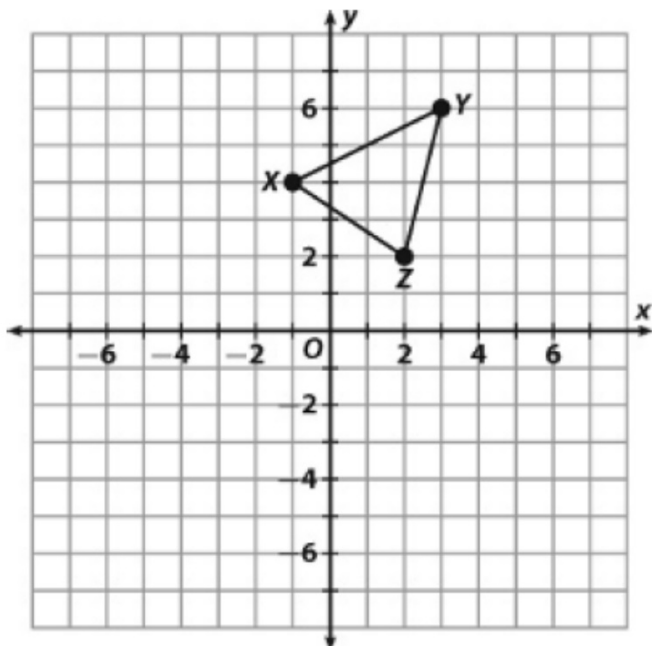


---

Draw the image of the figure after each translation.

3) 3 units left and 9 units down

4) 3 units right and 6 units up



5)

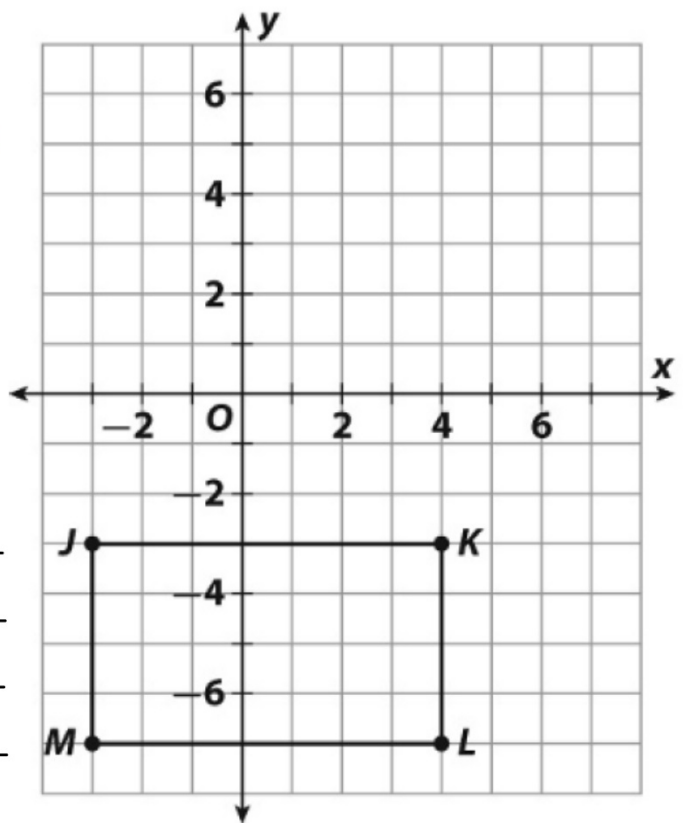
a. Graph rectangle  $J'K'L'M'$ , the image of rectangle  $JKLM$ , after a translation of 1 unit right and 9 units up.

b. Find the area of each rectangle.

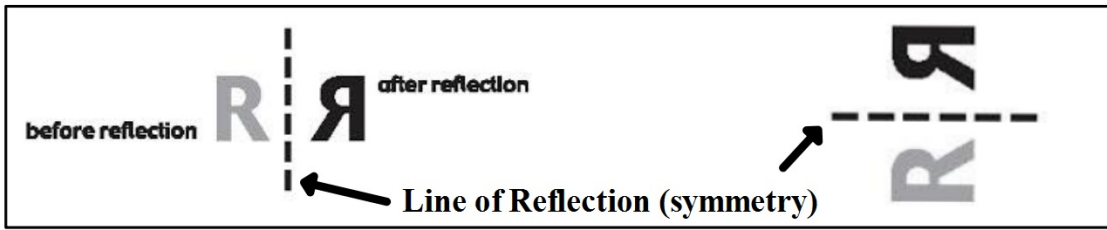
\_\_\_\_\_

c. Is it possible for the area of a figure to change after it is translated? Explain.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

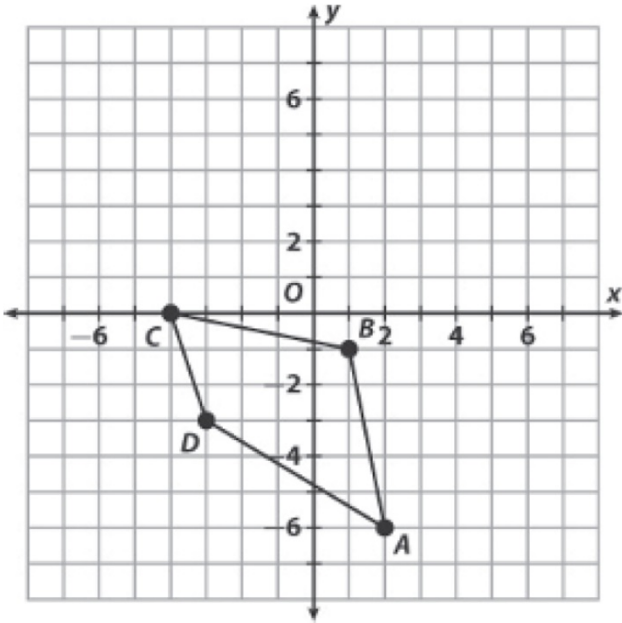


6) The action word for Translation is (circle one)      turn      flip      slide      enlarge

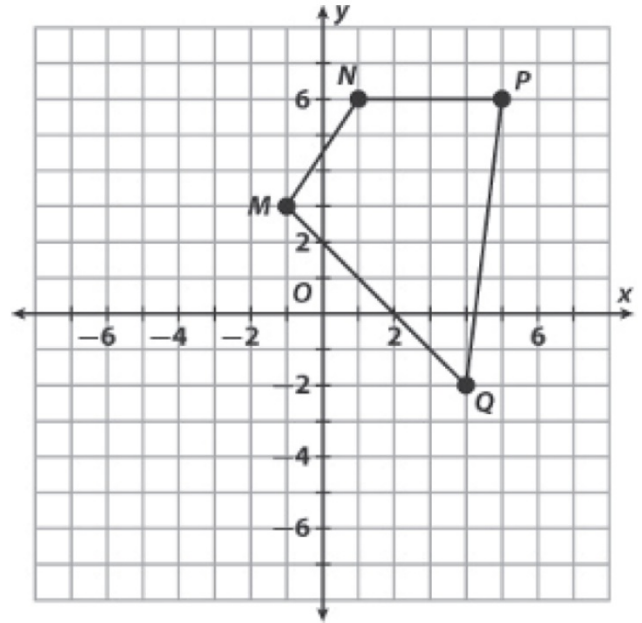


Draw the image of the figure after each reflection.

7) across the x-axis



8) across the y-axis



9)

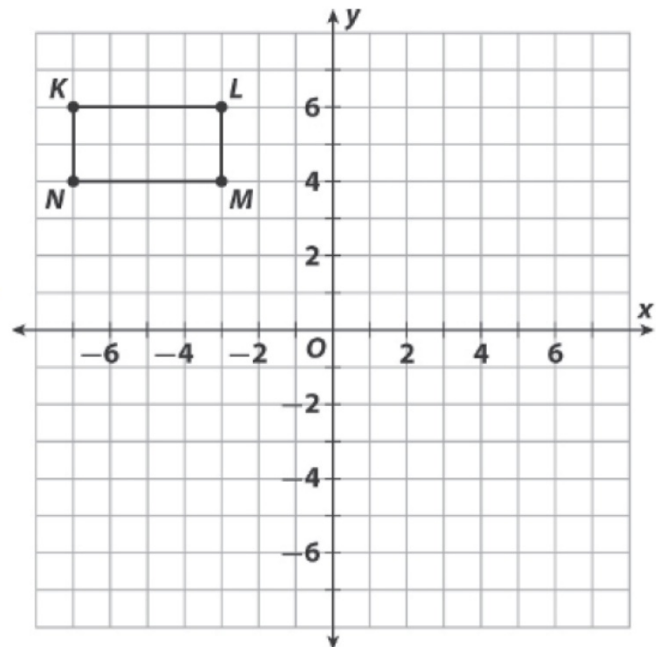
a. Graph rectangle  $K'L'M'N'$ , the image of rectangle  $KLMN$  after a reflection across the y-axis.

b. What is the perimeter of each rectangle?

\_\_\_\_\_

c. Is it possible for the perimeter of a figure to change after it is reflected? Explain.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



10) The action word for Reflection is (circle one)      turn      flip      slide      enlarge



11)

A translation of each point  $(x, y)$  of a figure can be described using the coordinate notation  $(x, y) \rightarrow (x + a, y + b)$ , where  $a$  represents the horizontal distance moved and  $b$  represents the vertical distance moved. For triangle  $PQR$  with vertices  $P(-3, -1)$ ,  $Q(0, -1)$ , and  $R(-1, -3)$ , find the coordinates of the vertices of the image after the translation  $(x, y) \rightarrow (x - 5, y + 7)$ .

---

- 12) Triangle  $ABC$  is reflected across the  $y$ -axis to form triangle  $A'B'C'$ . The coordinates of the vertices of the triangles are given below.

**Triangle  $ABC$ :**  $A(2, 3)$   $B(6, 7)$   $C(4, 1)$

**Triangle  $A'B'C'$ :**  $A'(-2, 3)$   $B'(-6, 7)$   $C'(-4, 1)$

Make a conjecture about the coordinates of a figure and its image after a reflection across the  $y$ -axis.

---

---



- 13) A reflection is a transformation that (*slides, flips, turns*) a figure across a line. \_\_\_\_\_
- 14) The image of a reflection is (*sometimes, always, never*) congruent to the original figure. \_\_\_\_\_
- 15) In a reflection across the  $x$ -axis, the ( $x$ -coordinate,  $y$ -coordinate) changes. \_\_\_\_\_