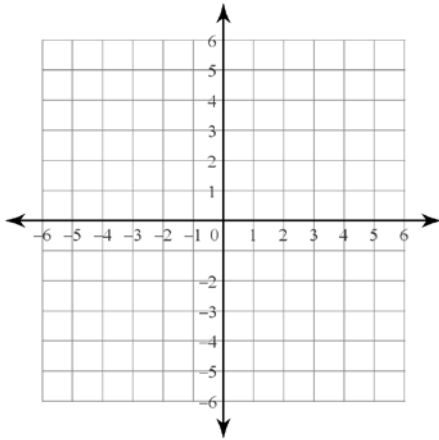


**1) Translate point A to point A'.**

First, graph the point (-3, 5) and label it A. Now, graph the point (2, 4) and label it A'.

Describe the movement from A → A'.



\_\_\_\_\_

\_\_\_\_\_

How do the coordinates from A change when they go to A'?

Fill in the blanks: A → A'

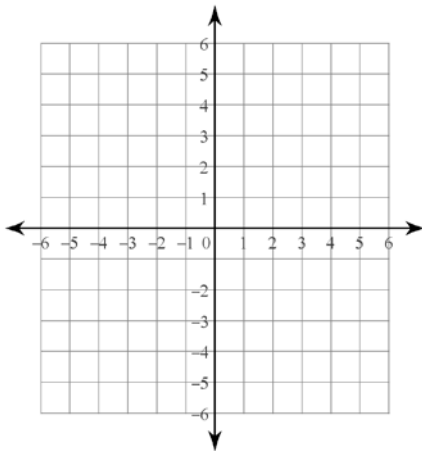
$(-3, 5) \rightarrow (-3 + \underline{\quad}, 5 - \underline{\quad})$

**2) Now translate a whole triangle:**

Graph and label the points A(-3, 5), B(-6, 2), and C(-2, 1).

Graph and label the points A'(2, 4), B'(-1, 1), C'(3, 0).

Describe the translation of  $\triangle ABC$  to  $\triangle A'B'C'$ :

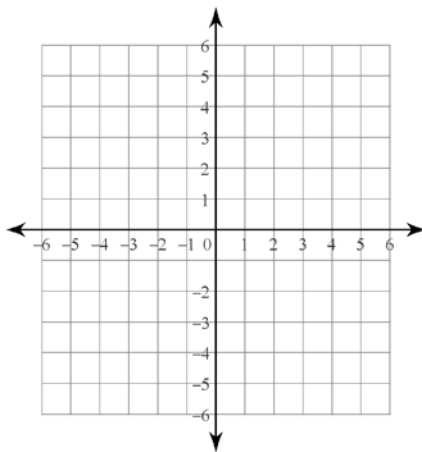


\_\_\_\_\_

\_\_\_\_\_

How do the coordinates from the points in  $\triangle ABC$  change when the is translated to  $\triangle A'B'C'$ ?

**3) Translate  $\triangle XYZ$ , where X(-5, 2), Y(-4, 1), Z(0, -3).**



First, graph and label  $\triangle XYZ$ .

Next, translate  $\triangle XYZ \rightarrow \triangle X'Y'Z'$  by the rule:

add 3 to the  $x$  value, and subtract 2 from they  $y$  value.

This is written as:  $(x, y) \rightarrow (x + 3, y - 2)$ .

Graph and label  $\triangle X'Y'Z'$  by the rule:  $(x, y) \rightarrow (x + 3, y - 2)$

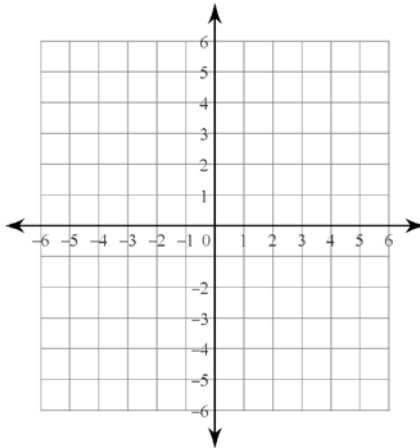
Write the points for  $\triangle X'Y'Z'$ :

X'(    ,     ), Y'(    ,     ), Z'(    ,     )

Did the shape of the triangle change?



**4) Translate  $\triangle QRS$ , where  $Q(4, -3)$ ,  $Y(-1, 0)$ ,  $Z(2, -5)$ .**



Graph and label  $\triangle QRS$ .

Now translate  $\triangle QRS \rightarrow \triangle Q'R'S'$  by the rule:  
subtract 4 from the  $x$  value, and add 3 to the  $y$  value.

Graph and label  $\triangle Q'R'S'$  by the rule

Fill in the blanks for this translation:  $(x, y) \rightarrow (x \underline{\hspace{1cm}}, y \underline{\hspace{1cm}})$ .

Write the points for  $\triangle Q'R'S'$ :

$Q'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $R'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $S'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

Did the shape of the triangle change?

**5) If you were asked to translate  $\triangle LMN \rightarrow \triangle L'M'N'$  by the rule:  $(x, y) \rightarrow (x - 5, y + 4)$ , and  $L$  is at  $(a, b)$ ,  $M$  is at  $(c, d)$  and  $N$  is at  $(e, f)$ , how would you write the coordinates for  $\triangle L'M'N'$ ?**

$L'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $M'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$ ,  $N'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

Using words, describe the translation that would be made by the rule:  $(x, y) \rightarrow (x - 5, y + 4)$

**6) Using words, describe the translation that would be made by the rule:  $(x, y) \rightarrow (x + 9, y - 3)$ . (How would this change the position of a triangle?)**

**7) Using words, describe the translation that would be made by the rule:  $(x, y) \rightarrow (x - 1, y + 0)$ . (How would this change the position of a triangle?)**

**8) Using words, describe the translation that would be made by the rule:  $(x, y) \rightarrow (x + 6, y - 2)$ . (How would this change the position of a triangle?)**