

**Lesson 1 – 2: Translations and Reflections Homework**

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

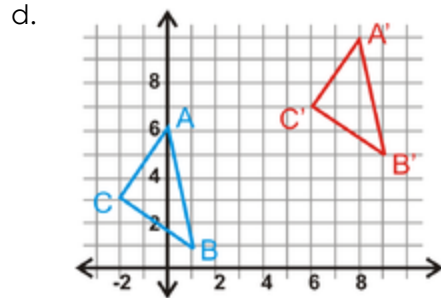
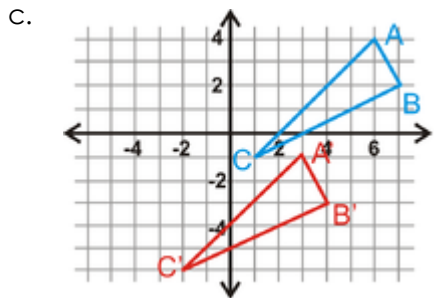
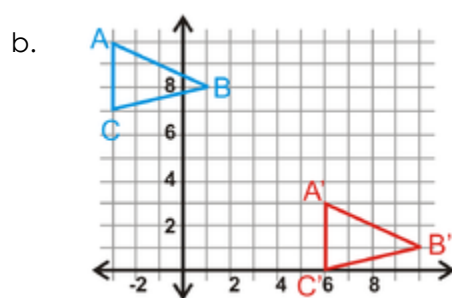
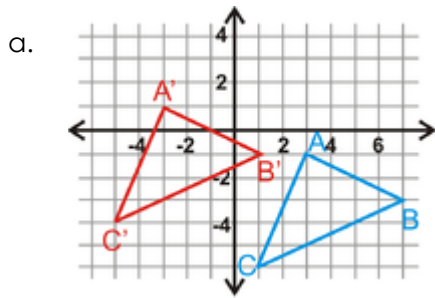
1. Use the translation  $(x, y) \rightarrow (x + 5, y - 9)$  for questions a-d

- a. What is the image of A (-6, 3)?
- b. What is the image of (4, 8)?
- c. What is the image of (5, -3)?
- d. What is the pre-image of D' (12, 7)?

2. The vertices of  $\triangle ABC$  are A(-6, -7), B(-3, -1), and C(-5, 2). Find the vertices of  $\triangle A'B'C'$ , given the translation rules below.

- a.  $(x, y) \rightarrow (x - 2, y - 7)$
- b.  $(x, y) \rightarrow (x + 11, y + 4)$
- c.  $(x, y) \rightarrow (x, y - 3)$
- d.  $(x, y) \rightarrow (x - 5, y + 8)$

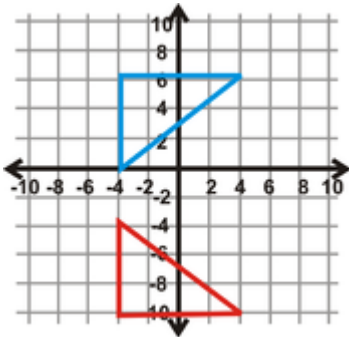
3.  $\triangle A'B'C'$  is the image of  $\triangle ABC$ . Write the translation rule.



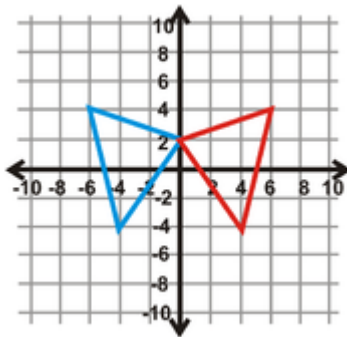
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**4. Find the line of reflection between the pre-image and the image.**

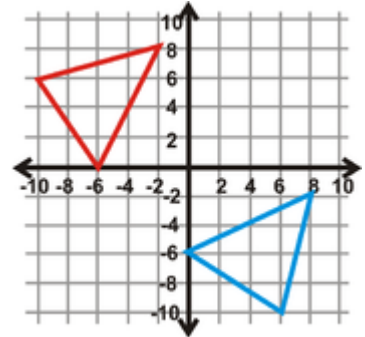
a.



b.

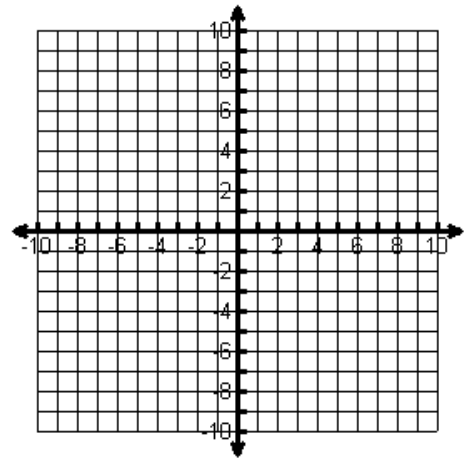


c.



**5. Two Reflections The vertices of  $\triangle ABC$  are  $A(-5, 1)$ ,  $B(-3, 6)$ , and  $C(2, 3)$ . Use this information to answer questions a-d.**

- Plot  $\triangle ABC$  on the coordinate plane.
- Reflect  $\triangle ABC$  over  $y = 1$ . Find the coordinates of  $\triangle A'B'C'$ .
- Reflect  $\triangle A'B'C'$  over  $y = -3$ . Find the coordinates of  $\triangle A''B''C''$ .
- What one transformation would be the same as this double reflection?



**6. Two Reflections The vertices of  $\triangle ABC$  are  $A(6, -2)$ ,  $B(8, -4)$ , and  $C(3, -7)$ . Use this information to answer questions a-d.**

- Plot  $\triangle ABC$  on the coordinate plane.
- Reflect  $\triangle ABC$  over  $x = 2$ . Find the coordinates of  $\triangle A'B'C'$ .
- Reflect  $\triangle A'B'C'$  over  $x = -4$ . Find the coordinates of  $\triangle A''B''C''$ .
- What one transformation would be the same as this double reflection?

