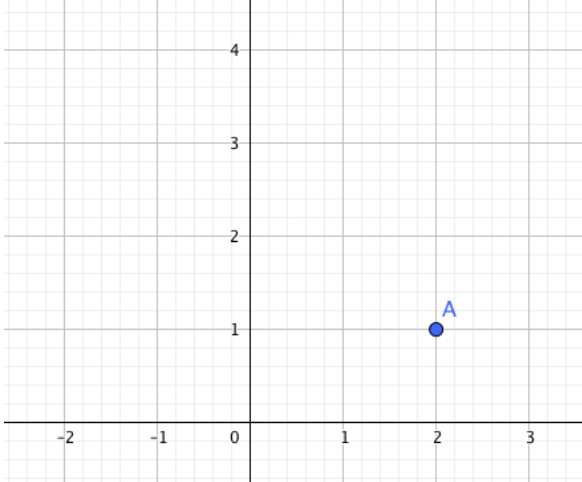


Geometry  
Unit 3 TEAM TEST

Target 3A Translations

1. Write the translation rule both as a transformation rule and in vector form. Then **draw the vector** that represents the transformation from Point A to A'.

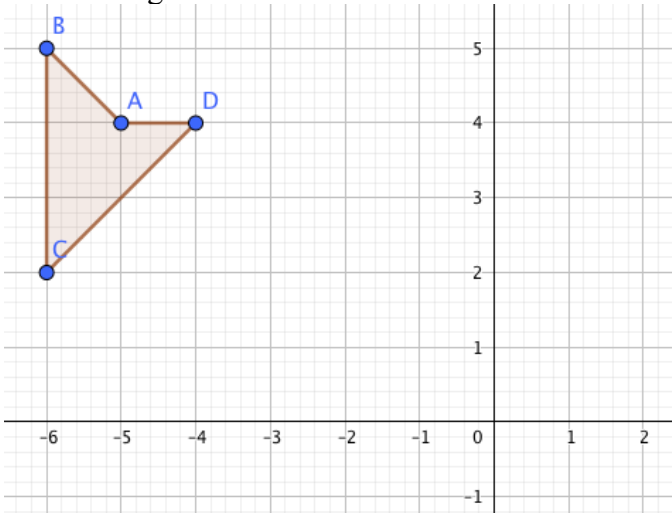
**2 units to the left, 3 units up**



Translation:  $(x, y) \rightarrow ( \quad , \quad )$

$\langle \quad , \quad \rangle$

2. Find the coordinates and **graph** the vertices of the image of ABCD for the transformation.

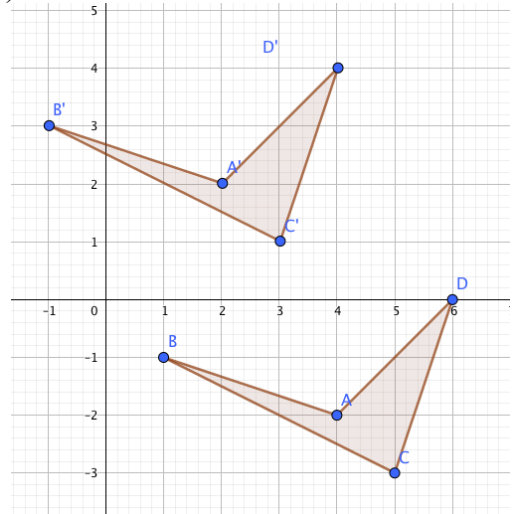


**Translation:  $(x, y) \rightarrow (x + 5, y - 1)$**

A( , ) B( , ) C( , ) D( , )

A'( , ) B'( , ) C'( , ) D'( , )

3. Write a rule in both rule form and component (vector) form to describe the translation.



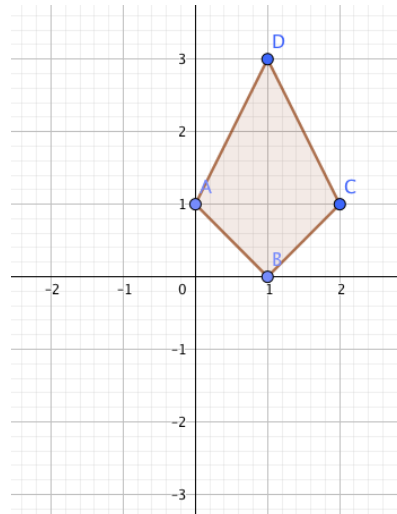
Translation:  $(x, y) \rightarrow ( \quad , \quad )$

$\langle \quad , \quad \rangle$

Target 3B Reflections

Find the coordinates and **graph** the vertices of the image for each transformation. (Question 4-5)

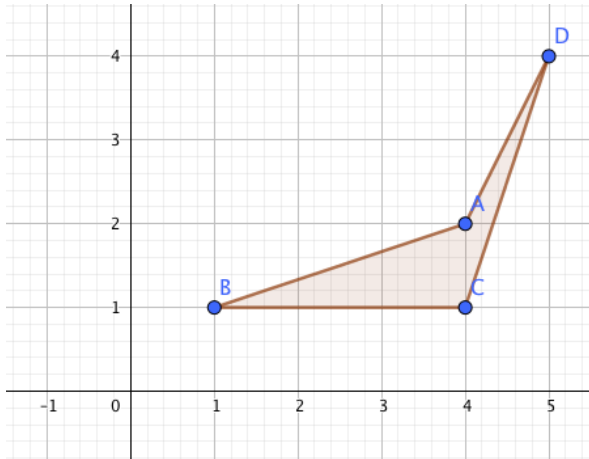
4. Reflection of ABCD over the x-axis



A( , ) B( , ) C( , ) D( , )

A'( , ) B'( , ) C'( , ) D'( , )

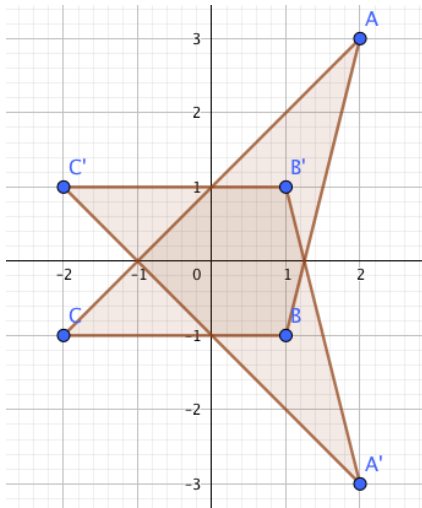
5. Reflection of ABCD over the line  $x = 3$ .



A( , ) B( , ) C( , ) D( , )  
 A'( , ) B'( , ) C'( , ) D'( , )

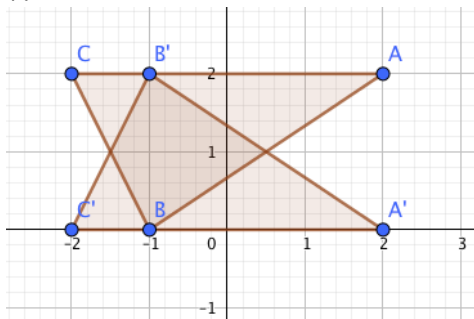
For problems 6 and 7, highlight the **line of symmetry** and write a rule to describe the reflection.

6.



Reflection: Over \_\_\_\_\_.

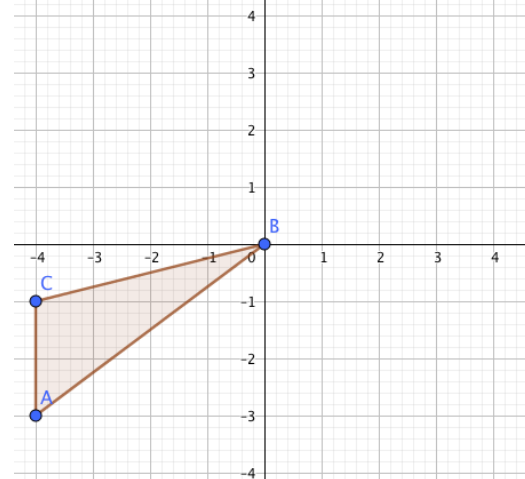
7.



Target 3C Rotations

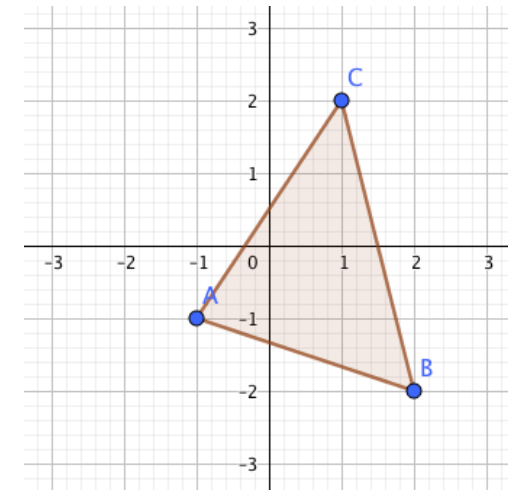
For problems 8 and 9, **find the coordinates** and **graph** the vertices of the image of ABC for the transformation.

8. Rotation:  $90^\circ$  clockwise about the origin.



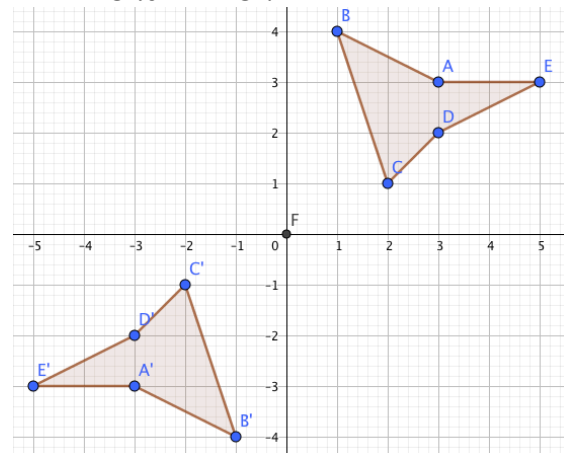
A( , )  
 B( , )  
 C( , )  
 A'( , )  
 B'( , )  
 C'( , )

9. Rotation:  $180^\circ$  about the origin.

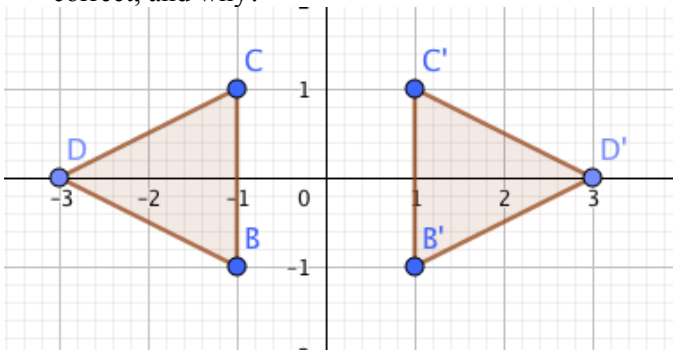


A( , )  
 B( , )  
 C( , )  
 A'( , )  
 B'( , )  
 C'( , )

10. Describe the transformation that maps Figure ABC to A'B'C'.



11. Victor says that the following transformation is a rotation 180 degrees clockwise about the origin. Julian says it's a reflection about the y-axis. Who is correct, and why?



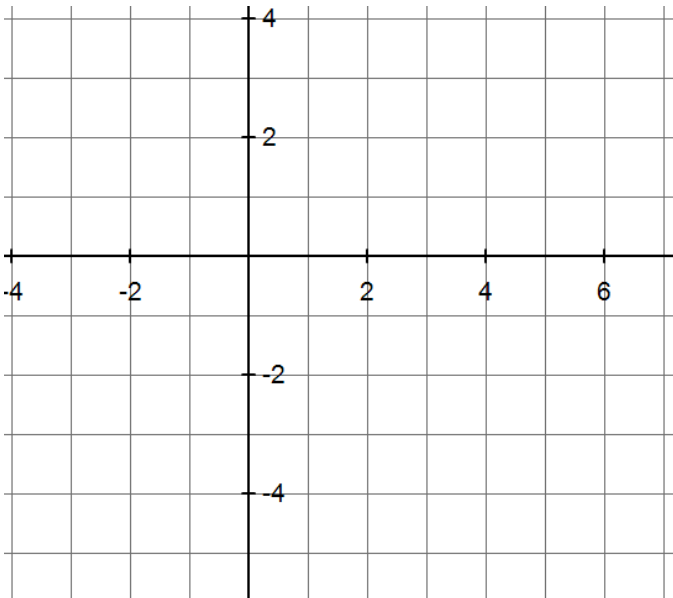
Target 3D Compositions of Transformations

12. Given points  $B(1, -2)$ ,  $A(2, -3)$ ,  $T(3, -2)$  graph  $\triangle BAT$  and its image after the composition of transformations.

Reflect: over y-axis

Rotate:  $90^\circ$  clockwise about the origin.

Translate:  $(x, y) \rightarrow (x + 3, y)$



$B( \quad , \quad )$   $A( \quad , \quad )$   $T( \quad , \quad )$

$B'( \quad , \quad )$   $A'( \quad , \quad )$   $T'( \quad , \quad )$

$B''( \quad , \quad )$   $A''( \quad , \quad )$   $T''( \quad , \quad )$

13. Use **transformations** to prove that triangle  $ABC$  and triangle  $EFG$  are congruent.

