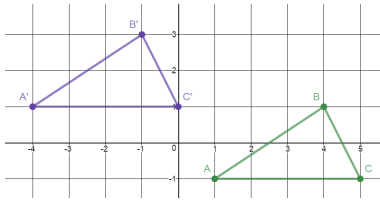


Transformations

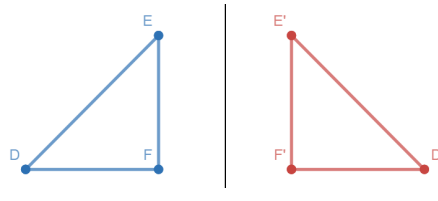
3 Congruence Transformations

Translation



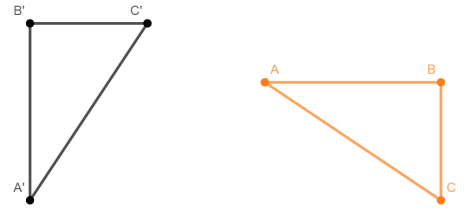
What do you notice?

Reflection



What do you notice?

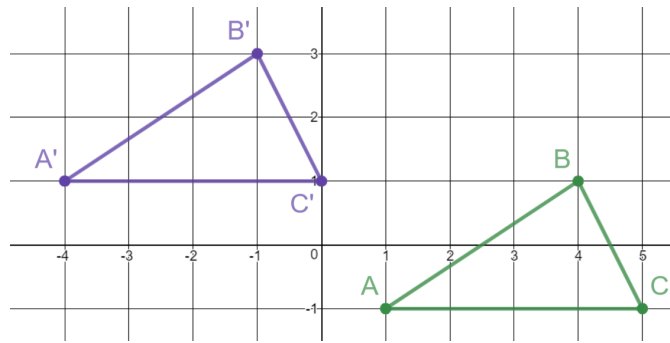
Rotation



What do you notice?

Big Idea: Congruent parts of a polygon map to its congruent parts under these 3 transformations.

Let's focus on Translations



Describe in words what happened from the green to the purple. (mapping video → bit.ly/trmapc)

Now let's use math notation.

$$(x, y) \rightarrow (x - 5, y)$$

How does the math notation relate to your verbal description?

The vertices of $\triangle PQR$ have coordinates $P(2,3)$, $Q(3,8)$, and $R(7,3)$. Under which transformation of $\triangle PQR$ are distance and angle measures preserved?

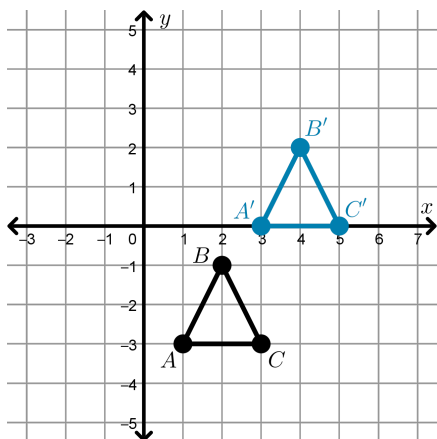
(1) $(x,y) \rightarrow (2x, 3y)$

(3) $(x,y) \rightarrow (2x, y + 3)$

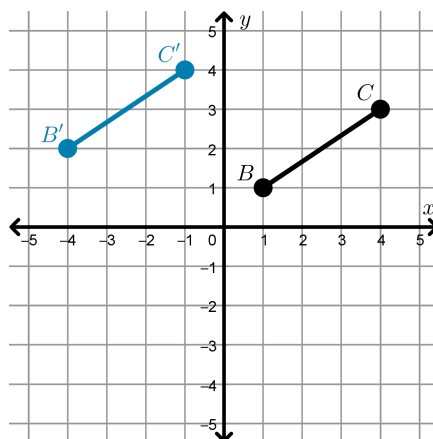
(2) $(x,y) \rightarrow (x + 2, 3y)$

(4) $(x,y) \rightarrow (x + 2, y + 3)$

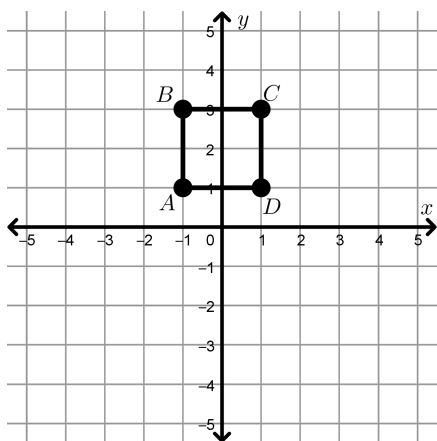
Write a rule for the translation of $\triangle ABC$ to its image.



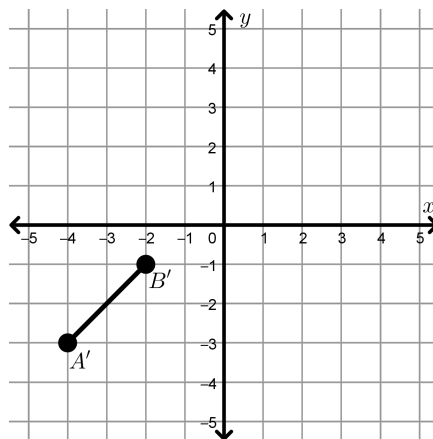
Write a rule for the translation of BC to its image.



Graph the image of $ABCD$ after the translation:
 $(x, y) \rightarrow (x + 3, y - 2)$



What was the pre-image of $A'B'$ if the translation
 $(x, y) \rightarrow (x - 4, y - 2)$ was performed on AB ?



Triangle $A'B'C'$ is the image of triangle ABC after a translation of 2 units to the right and 3 units up. Is triangle ABC congruent to triangle $A'B'C'$? Explain why.