

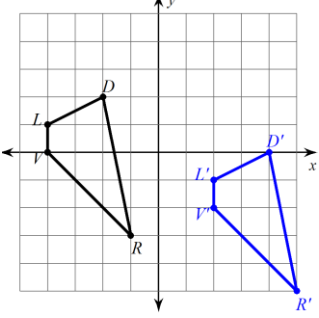
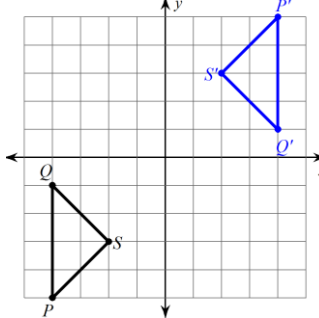
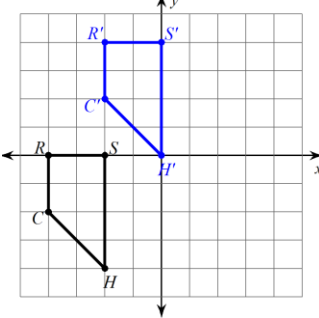
1.1 Translations

Vocabulary

Transformation: An operation that _____ or _____ a figure in some way to produce a new figure. The three transformations are _____, _____, and _____.

Translation:	Preimage (A)	vs.	Image (A')
	 1		 2

Example 1: Cross out the example that is NOT a translation. Then describe the remaining translations.

<p>A.</p> 	<p>B.</p> 	<p>C.</p> 
<div style="border: 1px dashed black; padding: 5px; display: inline-block;"> <p>* Use one matching point to help you find the rule for the translation.</p> </div>		

THE MATHEMATICAL WAY TO DESCRIBE TRANSLATIONS...

<div style="border: 2px solid black; padding: 5px; text-align: center;"> <p>Coordinate Notation $(x, y) \rightarrow (x \pm a, y \pm b)$ left/right up/down</p> </div>	<p>Ex: left 3 units; up 7 units $(x, y) \rightarrow (x - 3, y + 7)$</p>
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Example 3: Rewrite the translation "mathematically"

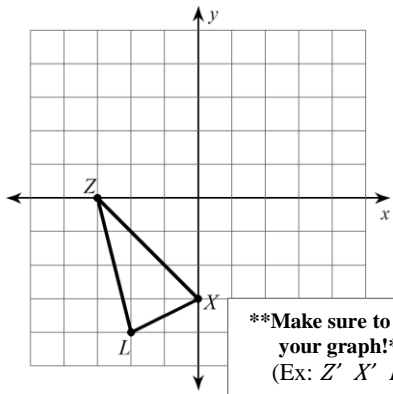
<p>1. left 15 units and up 24 units $(x, y) \rightarrow (x \quad , y \quad)$</p>	<p>2. right 8 units and down 4 units. $(x, y) \rightarrow (x \quad , y \quad)$</p>
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Example 4: Find the coordinates of the image without graphing.

<p>1. Point $G(6, -3)$ is translated 5 units to the left and 6 units up to form the point G'. What are the coordinates of G'?</p>	<p>2. What is the image of $H(-2, 6)$ after the translation defined by $(x, y) \rightarrow (x + 2, y - 1)$?</p>
<p>3. Use the translation $(x, y) \rightarrow (x - 5, y + 1)$ to find what point $(-2, -10)$ translates to:</p>	<p>4. Use the translation $(x, y) \rightarrow (x - 3, y - 7)$ to find what point $(1, 4)$ translates to:</p>

Example 5: Graph the translation using the rule given. Then list the coordinates of the image.

1. 5 units right and 3 unit up



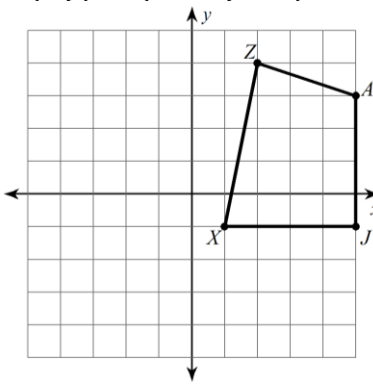
****Make sure to label your graph!**
(Ex: Z' X' L')**

Z' (,)

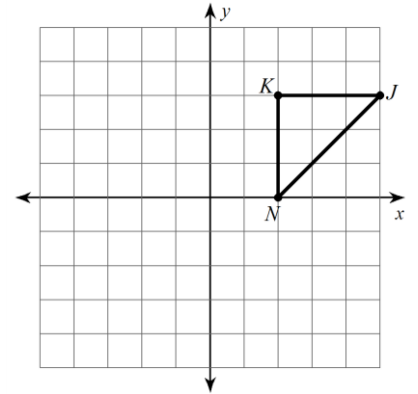
X' (,)

L' (,)

2. $(x, y) \rightarrow (x - 3, y - 2)$

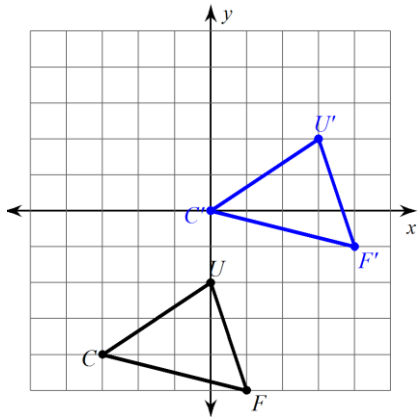


3. $(x, y) \rightarrow (x - 6, y)$

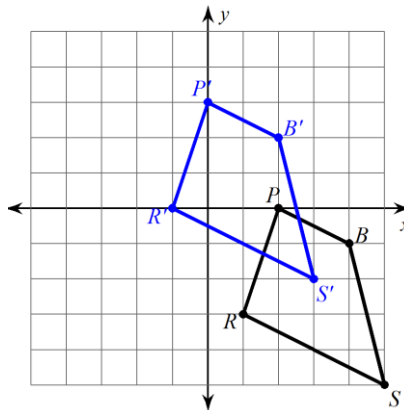


Example 6: Describe the transformation using coordinate notation.

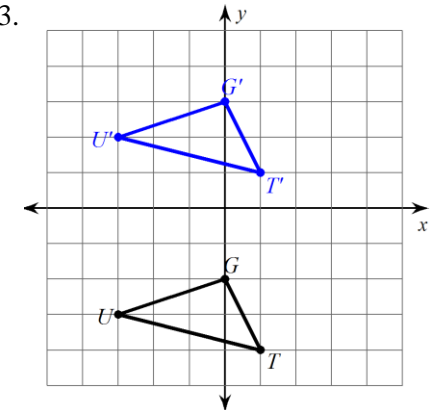
1.



2.

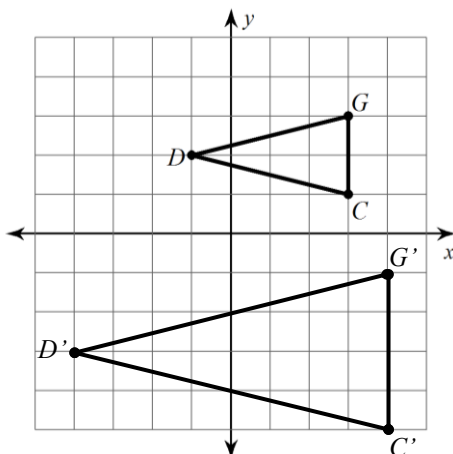


3.



Critical thinking: Partner up and discuss!

1. Is the following a translation? Why or why not?



2. Is the following a translation? Why or why not?

