

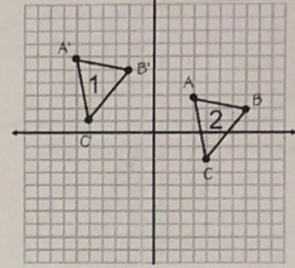
**Geometry DAY 1.2**  
**Classwork - Translations**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

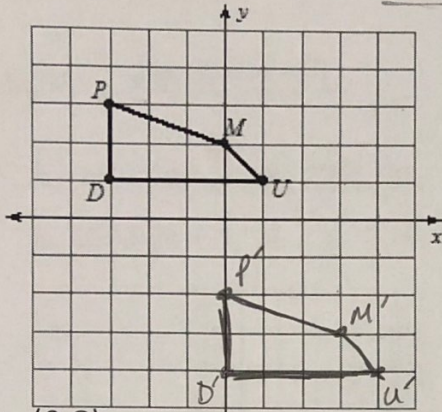
1. Which is the image and which is the pre-image (1 or 2)?

Pre-image  $\Delta 2$  Image  $\Delta 1$

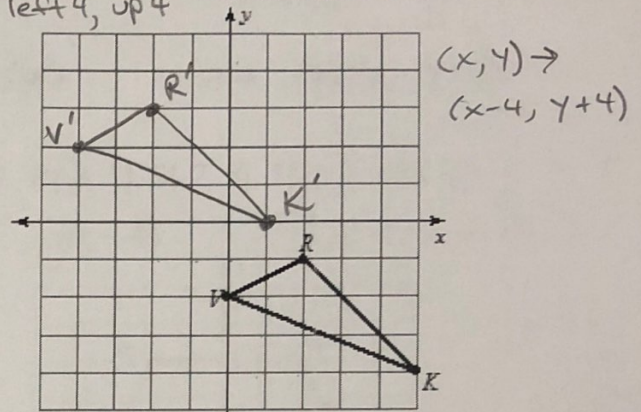


How do you know? The image is labeled with prime notation

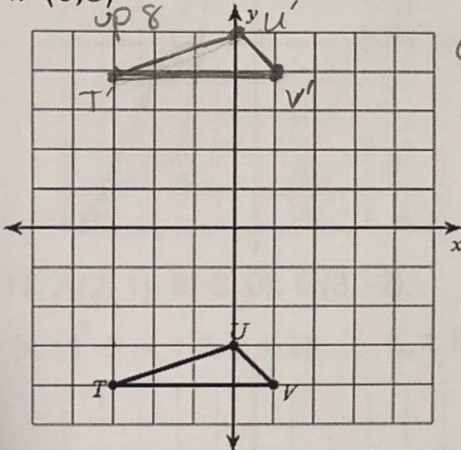
2.  $(x, y) \rightarrow (x + 3, y - 5)$   
 right 3 down 5  
 vector form:  $\langle 3, -5 \rangle$



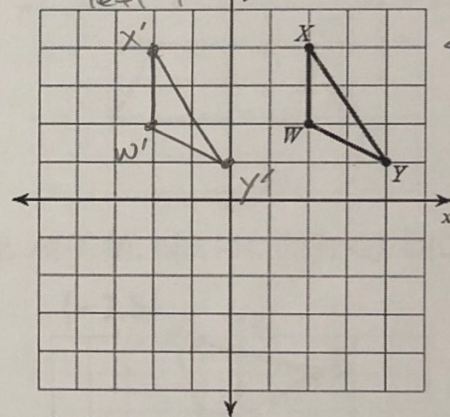
3.  $(-4, 4)$   
 left 4, up 4



4.  $(0, 8)$   
 up 8  
 $(x, y) \rightarrow (x, y + 8)$



5.  $(x, y) \rightarrow (x - 4, y)$   
 left 4  
 $\langle -4, 0 \rangle$



6. Use the translation  $(x, y) \rightarrow (x + 5, y - 9)$  for the questions below.

What is the translation vector?  $\langle 5, -9 \rangle$

What is the image of A  $(-6, 3)$ ?  $A'(-1, -6)$   
 $-6 + 5 = -1$     $3 - 9 = -6$

What is the image of B  $(4, 8)$ ?  $B'(9, -1)$   
 $4 + 5 = 9$     $8 - 9 = -1$

What is the image of A' from above, which would be called A''?  $A''(4, -15)$   
 $-1 + 5 = 4$     $-6 - 9 = -15$

What is the pre-image of K'  $(12, 7)$ ?  $(7, 16)$  (\*Think about this - you want to find K)

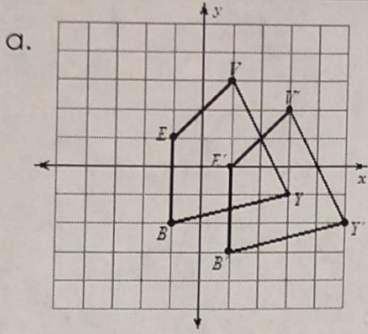
7. If the vertices of  $\Delta ABC$  are  $A(-6, -7)$ ,  $B(-3, -1)$ , and  $C(5, 2)$ , find the vertices of  $\Delta A'B'C'$  after each of the translations below.

a.  $(x, y) \rightarrow (x - 2, y - 7)$     $A' = (-8, -14)$ ,    $B' = (-5, -8)$ ,    $C' = (3, -5)$

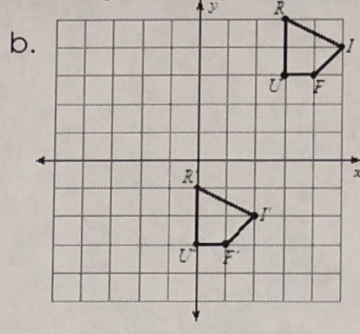
b.  $(x, y) \rightarrow (x, y - 3)$     $A' = (-6, -10)$ ,    $B' = (-3, -4)$ ,    $C' = (5, -1)$

c.  $(x, y) \rightarrow (x + 5, y + 8)$     $A' = (-1, 1)$ ,    $B' = (2, 7)$ ,    $C' = (10, 10)$

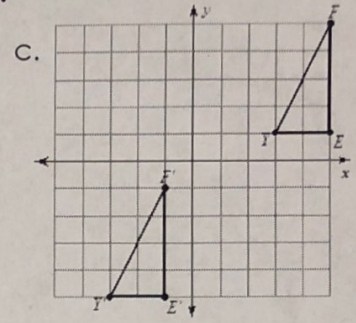
8. Find the translation RULE between the pre-image and the image.



$(x, y) \rightarrow (x+2, y-1)$



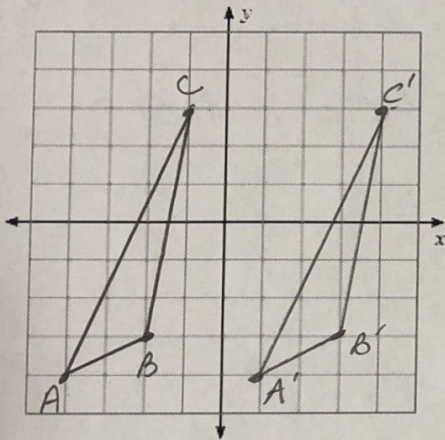
$(x, y) \rightarrow (x-3, y-6)$



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

9.  $A(-4, -4), B(-2, -3), C(-1, 3)$ ;

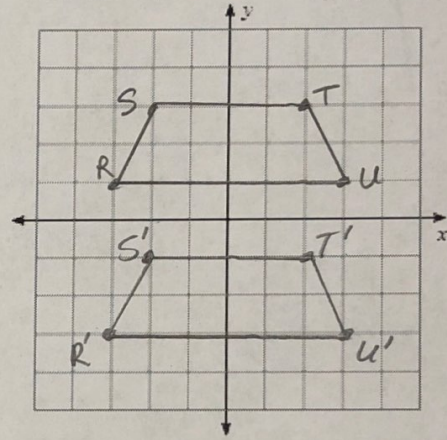
$(x, y) \rightarrow (x+5, y) \quad \langle 5, 0 \rangle$



$A'(1, -4)$   
 $B'(3, -3)$   
 $C'(4, 3)$

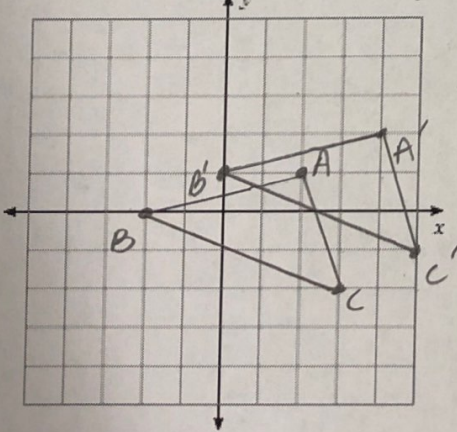
10.  $R(-3, 1), S(-2, 3), T(2, 3), U(3, 1)$ ;

$(0, -4) \quad (x, y) \rightarrow (x, y-4)$



11.  $A(2, 1), B(-2, 0), C(3, -2)$ ;

$(x, y) \rightarrow (x+2, y+1) \quad \langle 2, 1 \rangle$



12.  $A(-1, 0), B(3, -1), C(1, -2), D(0, -2)$ ;

$(-1, 5)$

