

Name: Key

Unit 1: Transformations

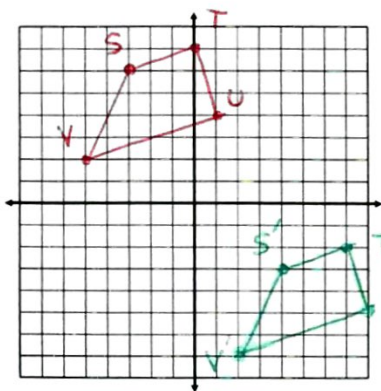


Date: _____ Period: **A B C D E F**

Homework: Translations

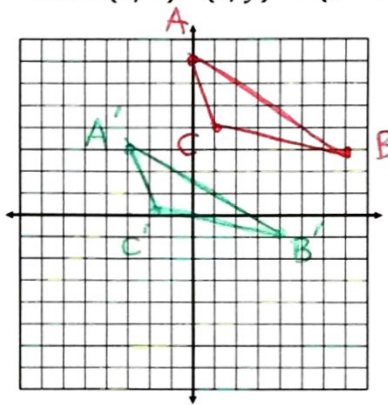
Directions: Graph and label each figure and its image under the given translation. Give the new coordinates.

1. Trapezoid $STUV$ with vertices $S(-3, 6)$, $T(0, 7)$, $U(1, 4)$, and $V(-5, 2)$: $(x, y) \rightarrow (x + 7, y - 9)$



$S'(\underline{4}, \underline{-3})$
 $T'(\underline{7}, \underline{-2})$
 $U'(\underline{8}, \underline{-5})$
 $V'(\underline{2}, \underline{-7})$

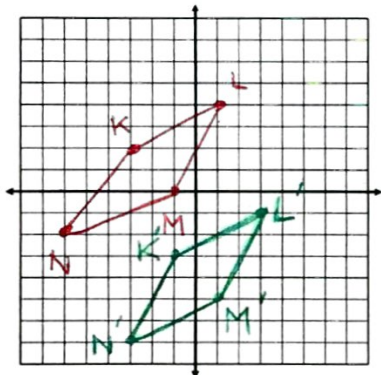
2. Triangle ABC with vertices $A(0, 7)$, $B(7, 3)$, and $C(1, 4)$: $(x, y) \rightarrow (x - 3, y - 4)$



left 3
down 4

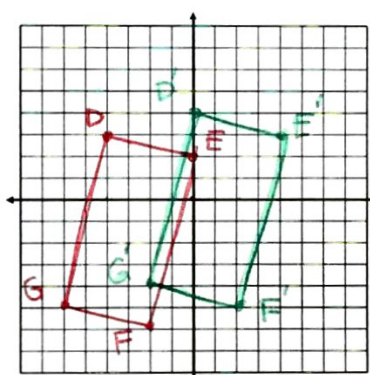
$A'(\underline{-3}, \underline{3})$
 $B'(\underline{4}, \underline{-1})$
 $C'(\underline{-2}, \underline{0})$

3. Rhombus $KLMN$ with vertices $K(-3, 2)$, $L(1, 4)$, $M(-1, 0)$, and $N(-5, -2)$: $(x, y) \rightarrow (x + 2, y - 5)$



$K'(\underline{-1}, \underline{-3})$
 $L'(\underline{3}, \underline{-1})$
 $M'(\underline{1}, \underline{-5})$
 $N'(\underline{-3}, \underline{-7})$

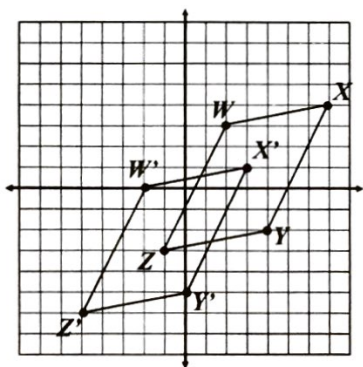
4. Rectangle $DEFG$ with vertices $D(-4, 3)$, $E(0, 2)$, $F(-2, -6)$, and $G(-6, -5)$: $(x, y) \rightarrow (x + 4, y + 1)$



$D'(\underline{0}, \underline{4})$
 $E'(\underline{4}, \underline{3})$
 $F'(\underline{2}, \underline{-5})$
 $G'(\underline{-2}, \underline{-4})$

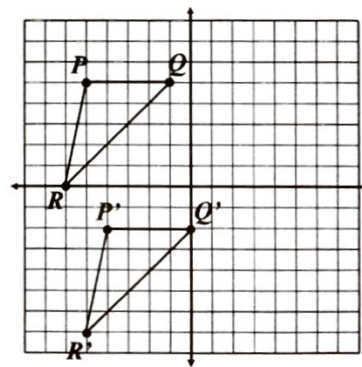
Directions: Write a rule describing each translation below.

5.



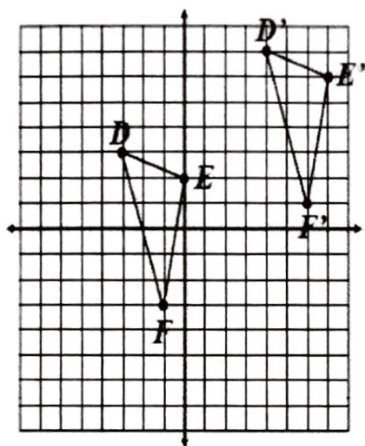
Rule: $(x, y) \rightarrow (x - 4, y - 3)$

6.



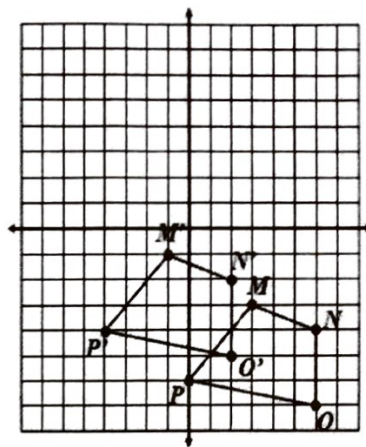
Rule: $(x, y) \rightarrow (x + 1, y - 7)$

7. Write a rule describing the translation below:



Rule: $(x, y) \rightarrow (x+7, y+4)$

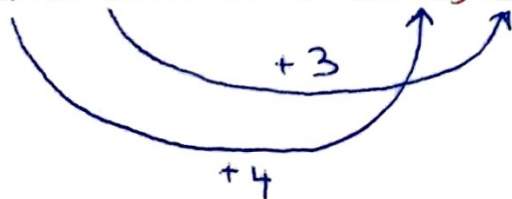
8. Write a rule describing the translation below:



Rule: $(x, y) \rightarrow (x-4, y+2)$

9. A polygon is translated using the rule $(x, y) \rightarrow (x+4, y+3)$. The coordinates are $A(-8, 9)$, $B(p, 6)$, $C(-5, 0)$, $A'(-12, 12)$, $B'(-7, 9)$, $C'(-9, 3)$. Find p .

$$B(p, 6) \rightarrow B'(-7, 9)$$



$$p + 4 = -7$$

$$\boxed{p = -11}$$