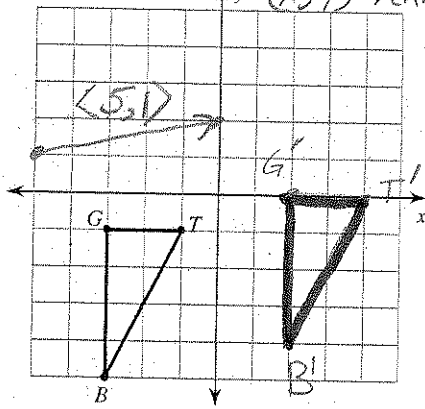


Translations

Graph the image of the figure using the transformation given.

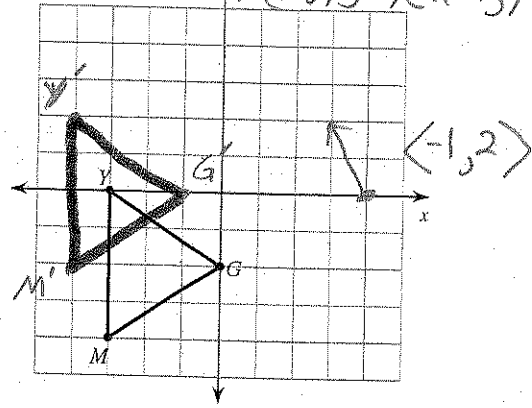
1) translation: 5 units right and 1 unit up

$$(x, y) \rightarrow (x+5, y+1)$$



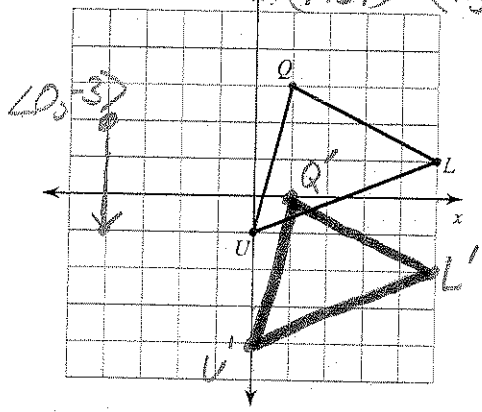
2) translation: 1 unit left and 2 units up

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



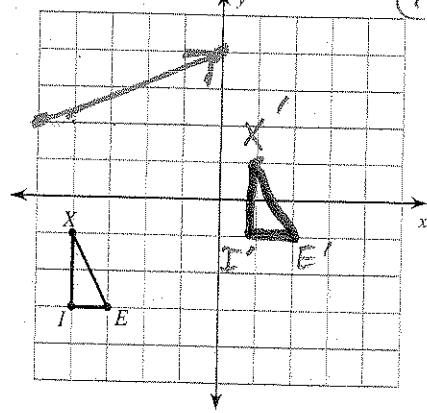
3) translation: 3 units down

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



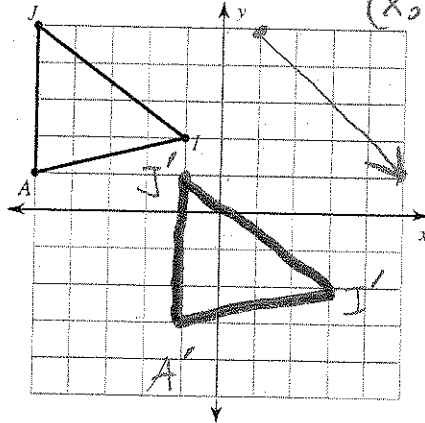
4) translation: 5 units right and 2 units up

$$(x, y) \rightarrow (x+5, y+2)$$



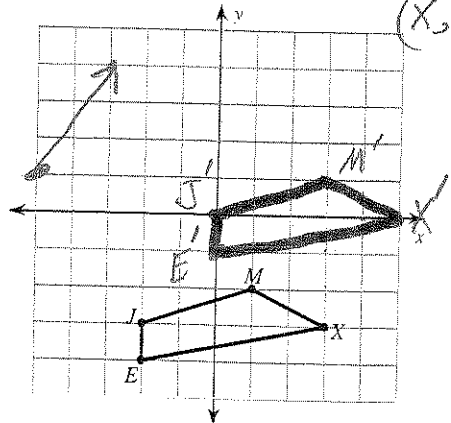
5) translation: 4 units right and 4 units down

$$(x, y) \rightarrow (x+4, y-4)$$



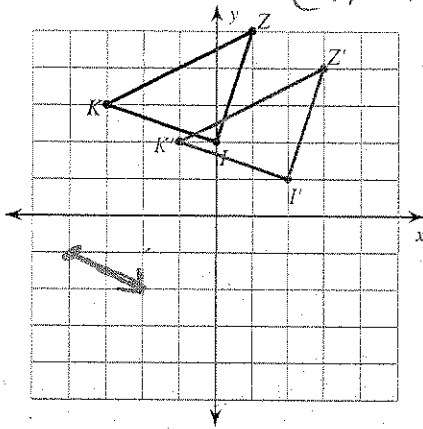
6) translation: 2 units right and 3 units up

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



Write a rule to describe each transformation.

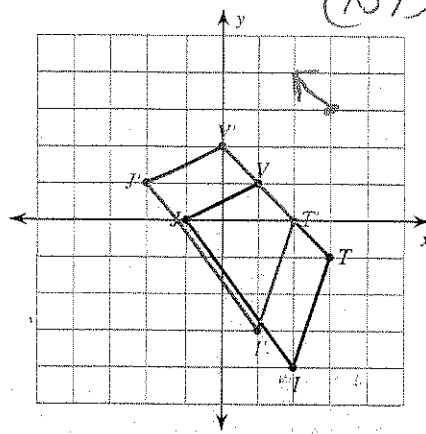
7)



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

$$\langle 2, -1 \rangle$$

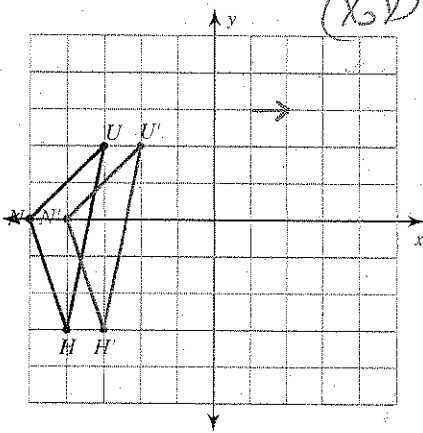
8)



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

$$\langle -1, 1 \rangle$$

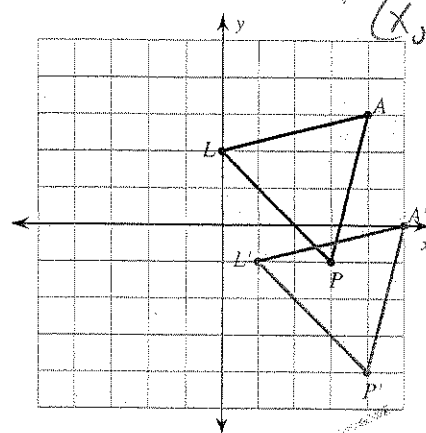
9)



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

$$\langle 1, 0 \rangle$$

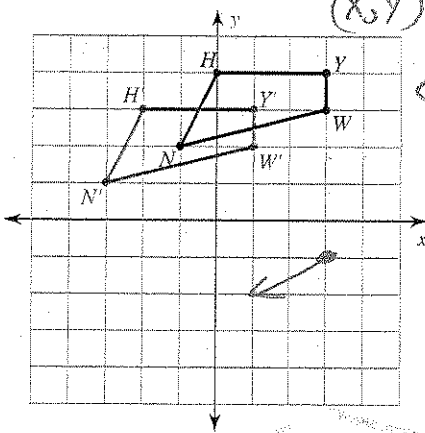
10)



$$(x, y) \rightarrow (x+1, y-3)$$

$$\langle 1, -3 \rangle$$

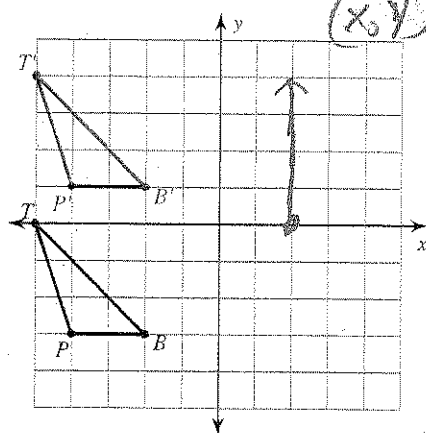
11)



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

$$\langle -2, -1 \rangle$$

12)



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

$$\langle 0, 4 \rangle$$