

Name _____
Translations

Key

Date _____

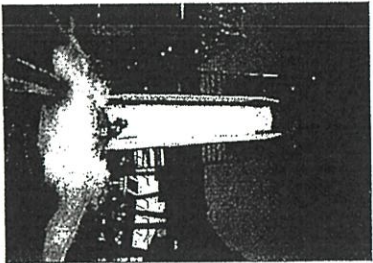
segment

direction
flip

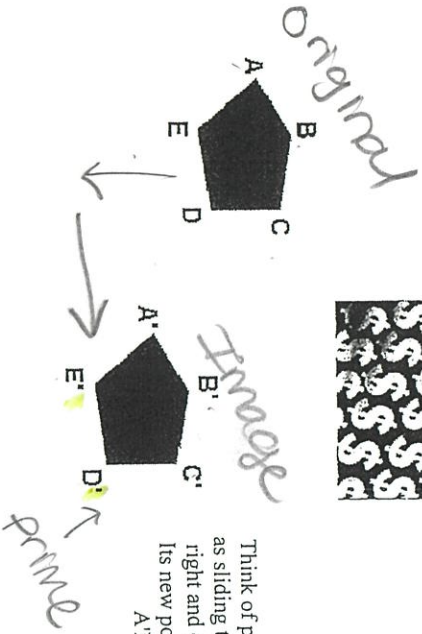
A translation "slides" an object a fixed distance in a given direction. The original object and its translation have the same shape and size and they face in the same direction. The word "translate" in Latin means "carried across".

When you are sliding down a water slide, you are experiencing a translation. Your body is moving a given distance (the length of the slide) in a given direction. You do not change your size, shape or the direction in which you are facing.

Translation
Slide



Translations can be seen in wallpaper designs, textile patterns, mosaics, and artwork.



Think of polygon ABCDE as sliding two inches to the right and one inch down. Its new position is labeled A'B'C'D'E'.

Remember:

A translation moves an object without changing its size or shape and without turning it or flipping it.

Translations are SLIDES!!!



Do the diagrams below illustrate translations?



Is this a translation?
 yes
 no



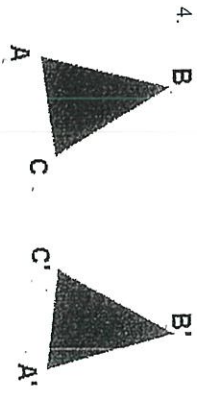
Is this a translation?
 yes
 no

Reflection

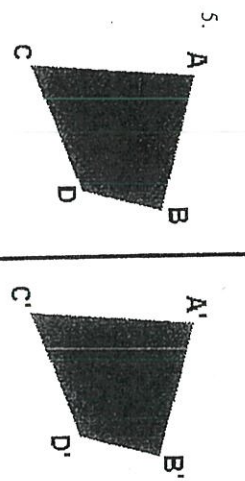


Is this a translation?
 yes
 no

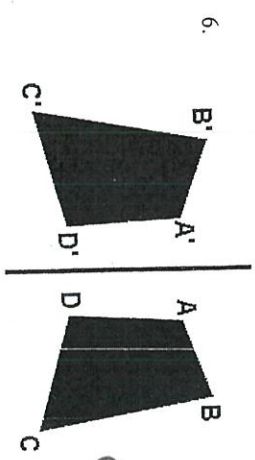
rotation



Is this a translation?
 yes
 no
Reflection



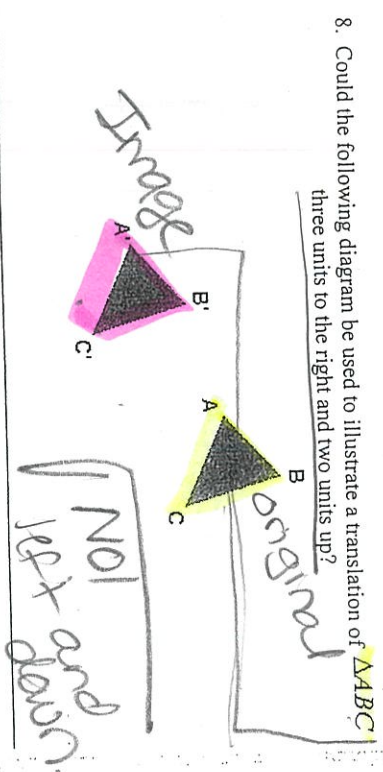
Is this a translation?
 yes
 no



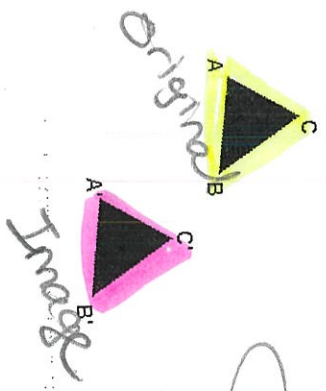
Is this a translation?
 yes
 no
Reflection



Is this a translation?
 yes
 no

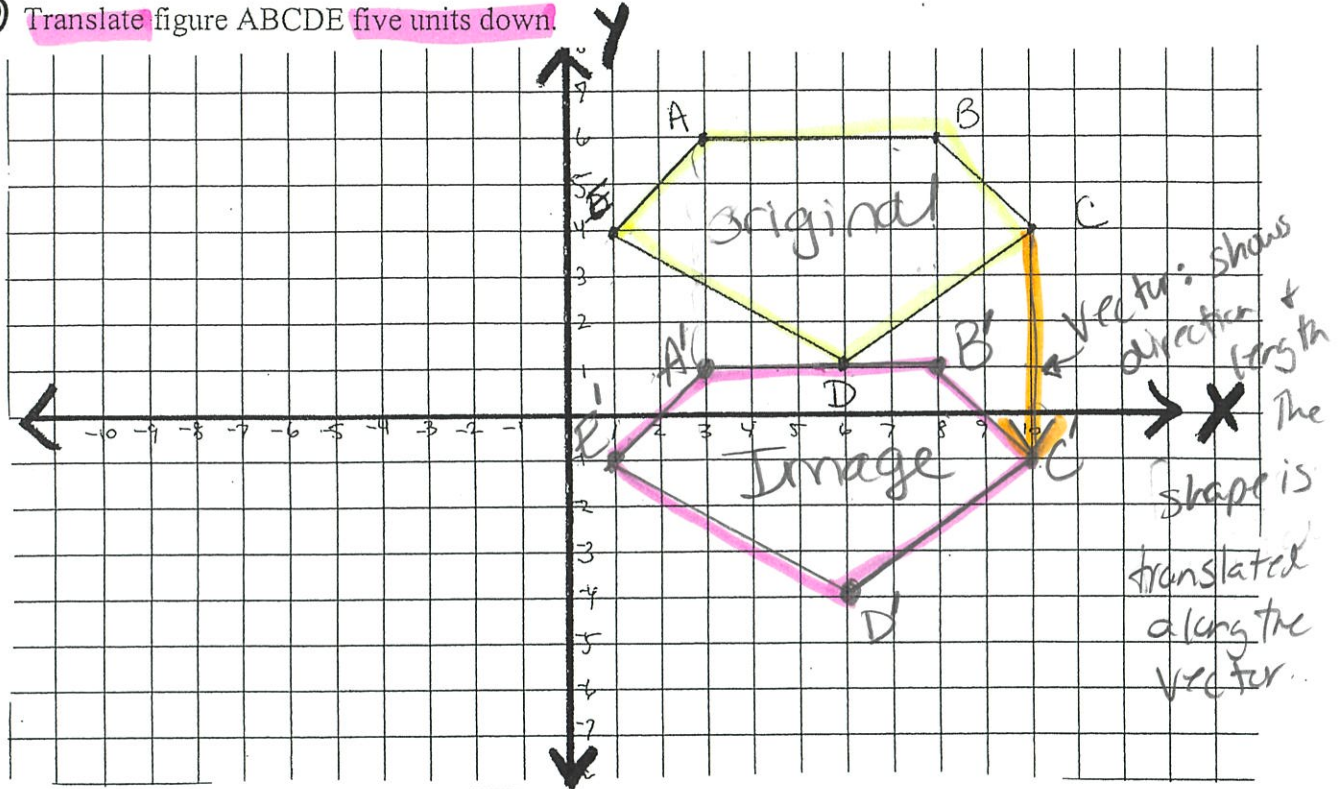


Which of the following translations best describes the diagram at the left?
 a. 3 units right and 2 units down
 b. 3 units left and 2 units up



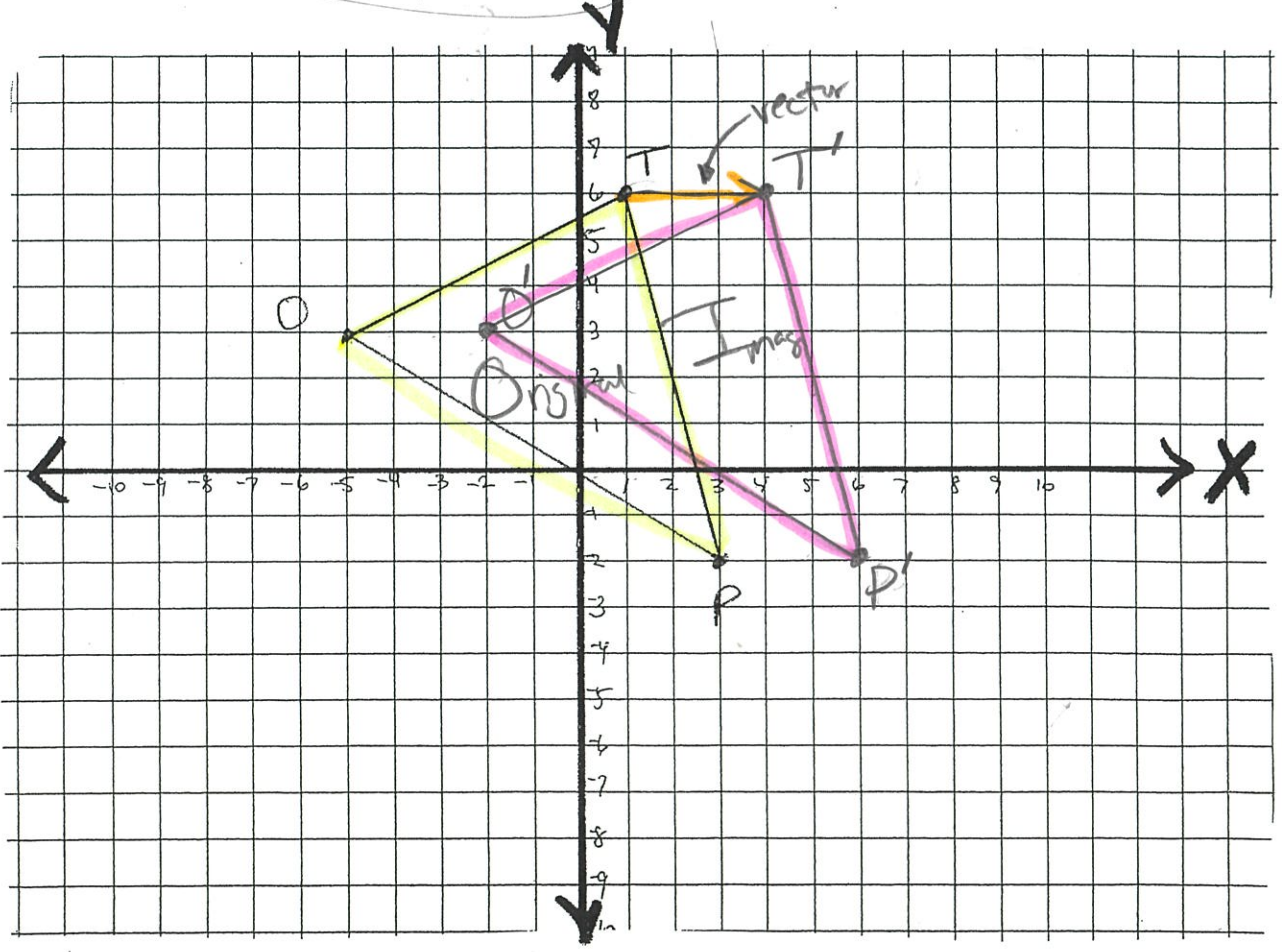
TRANSLATIONS ARE A SLIDE.

10) Translate figure ABCDE five units down.



- A'(3, 1)
- B'(8, 1)
- C'(10, -1)
- D'(6, -1)
- E'(1, -1)

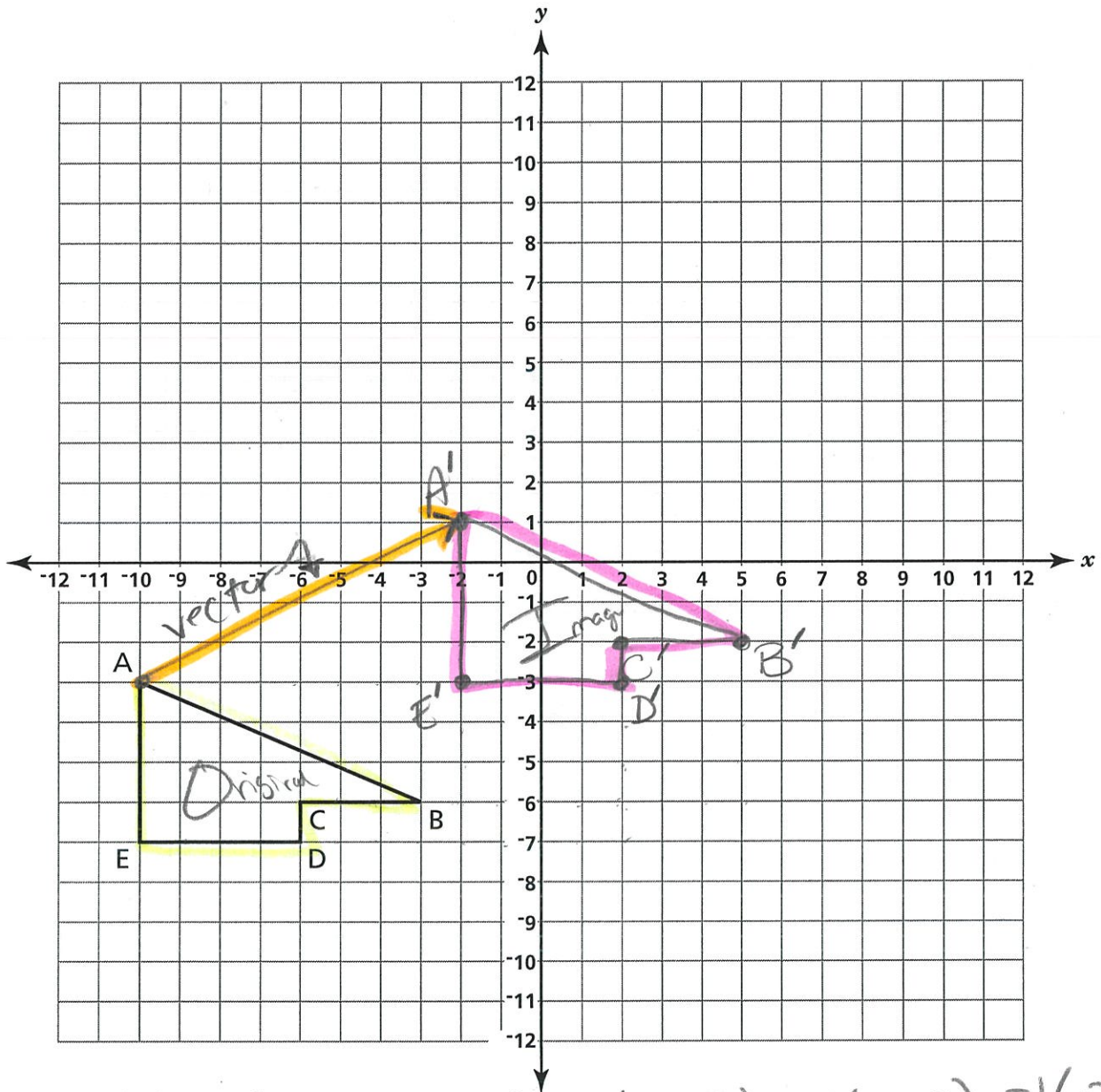
11) Translate figure TOP three units to the right.



- T'(4, 6)
- O'(-2, 3)
- P'(6, -2)

12)

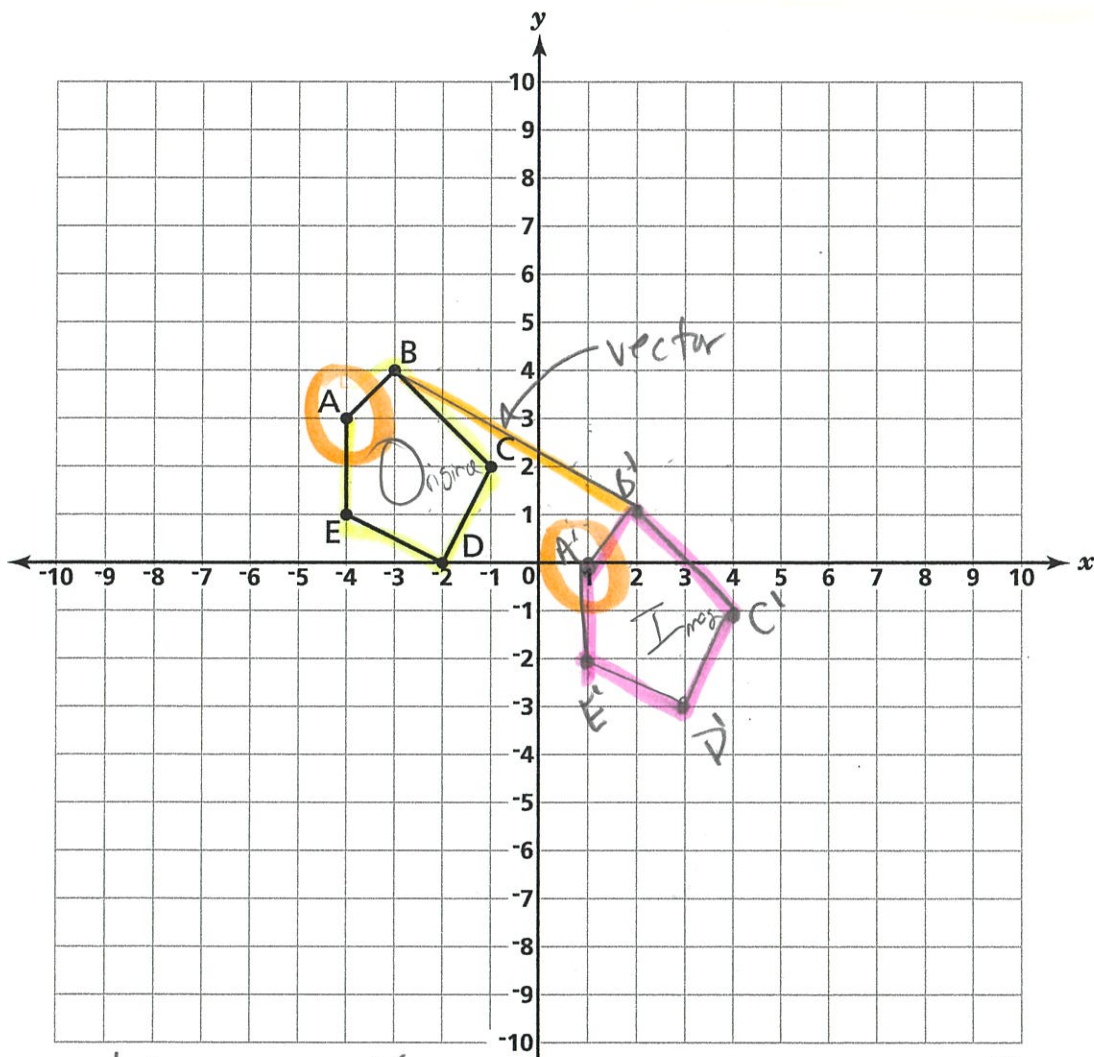
On the coordinate plane below, draw the image of polygon ABCDE translated 8 units to the right and 4 units up. Label the image A'B'C'D'E'.



$A'(-2, 1)$ $B'(5, -2)$ $C'(2, -2)$ $D'(2, -3)$ $E'(-2, -3)$

13)

Pentagon ABCDE is plotted on the grid below.



$A'(1, 0)$ $B'(2, 1)$ $C'(4, -1)$ $D'(3, -3)$ $E'(-1, -2)$

Part A

On the grid, draw the translation of pentagon ABCDE five units to the right and three units down. Label the translated figure $A'B'C'D'E'$.

Part B

On the lines below, explain how you determined the location of A' .

I determined the location of A'
 by sliding point A 5 units to
 the right + 3 units down.

14)

a) Plot the following points:

$M(-6,5)$ $A(-6,3)$ $T(-3,3)$ $H(-3,5)$

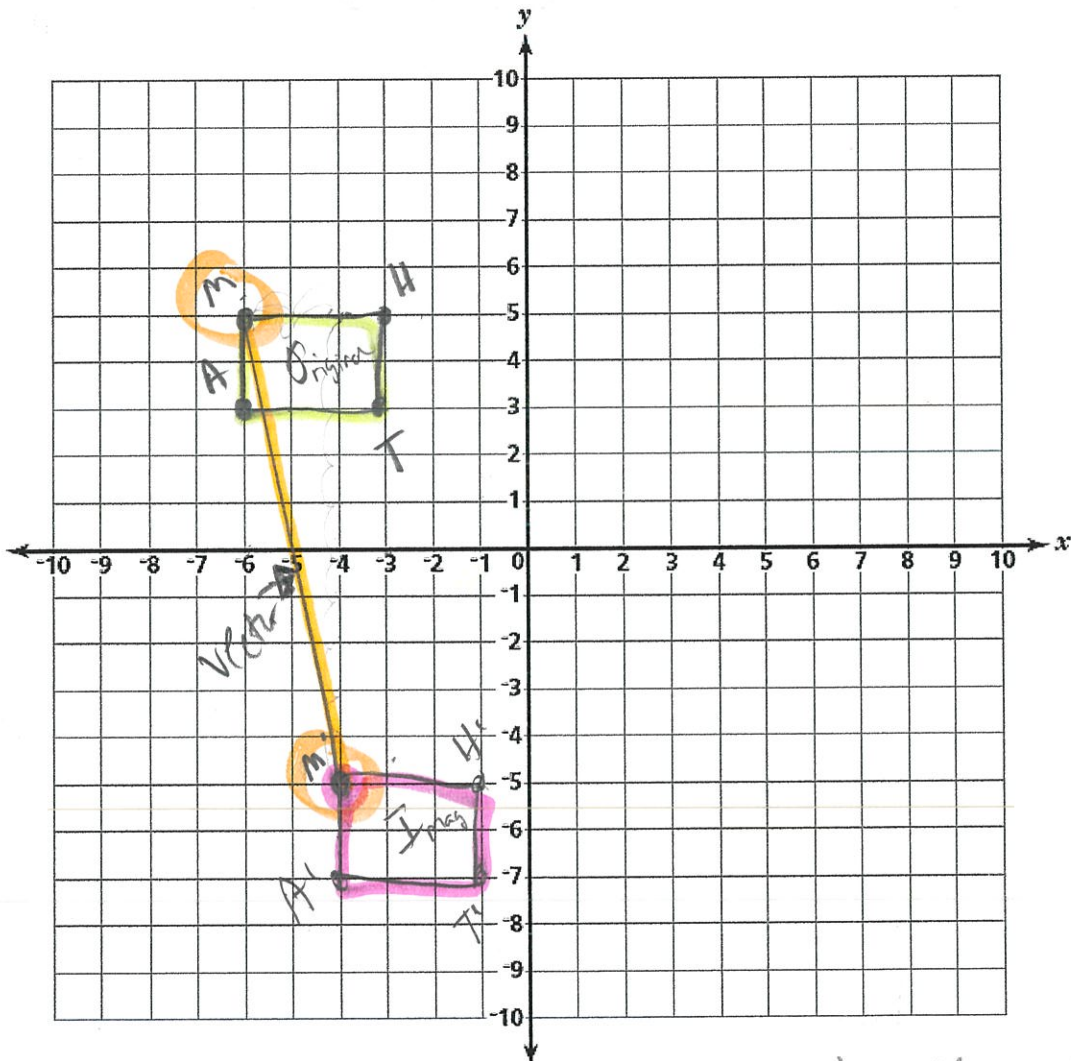
b) Plot:

$M'(-4,-5)$

c) Figure out the translation that slid M to M'

2 units right & 10 units down

d) Use the same translation from part c to figure out the location of A' , T' , and H' . (graph those points)



$M'(-4,-5)$ $A'(-4,-7)$ $T'(-1,-7)$ $H'(-1,-5)$