

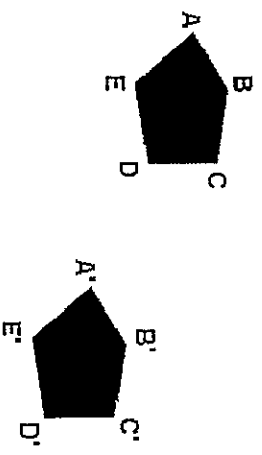
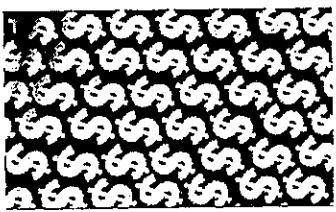
Name \_\_\_\_\_ Date \_\_\_\_\_

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.



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

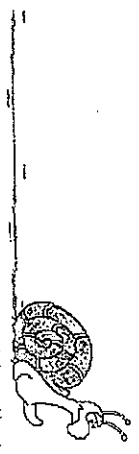


Think of polygon ABCDE as sliding two inches to the right and one inch down. Its new position is labeled A'B'C'D'E'.

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

Remember:

Translations are SLIDES!!!



Do the diagrams below illustrate translations?



Is this a translation?  
 yes  
 no

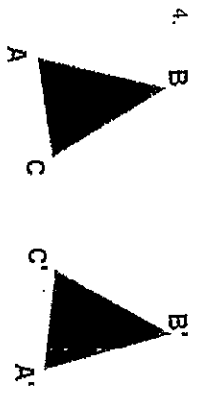


Is this a translation?  
 yes  
 no

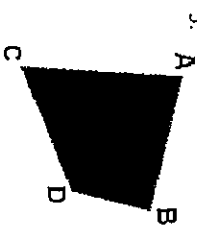


Is this a translation?  
 yes  
 no

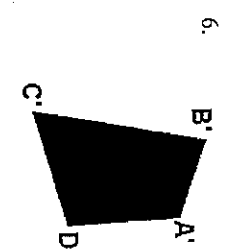




Is this a translation?  
 yes  
 no



Is this a translation?  
 yes  
 no

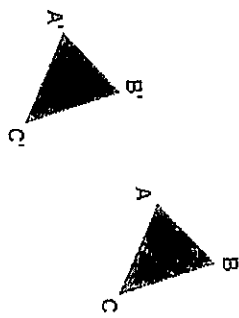


Is this a translation?  
 yes  
 no



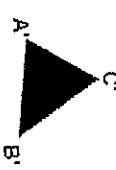
Is this a translation?  
 yes  
 no

8. Could the following diagram be used to illustrate a translation of  $\triangle ABC$  three units to the right and two units up?



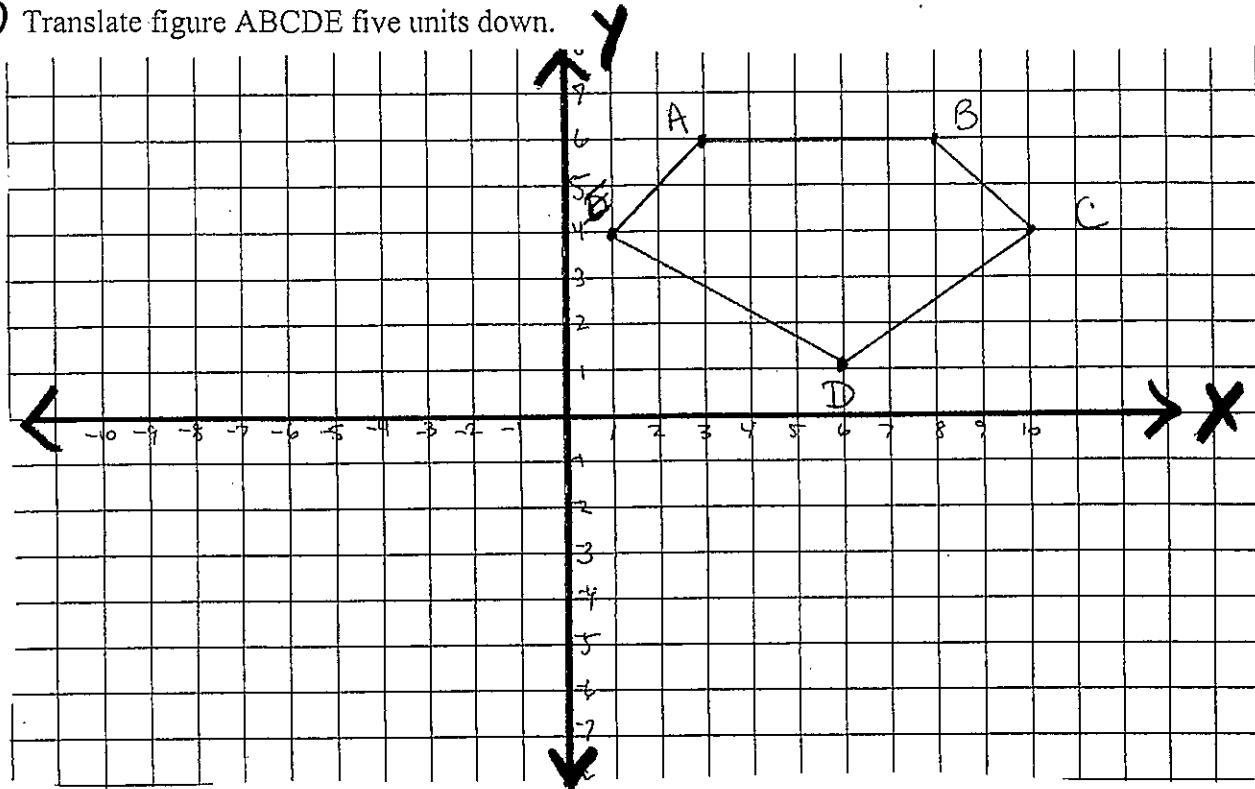
9. Which of the following translations best describes the diagram at the left?

- a. 3 units right and 2 units down
- b. 3 units left and 2 units up

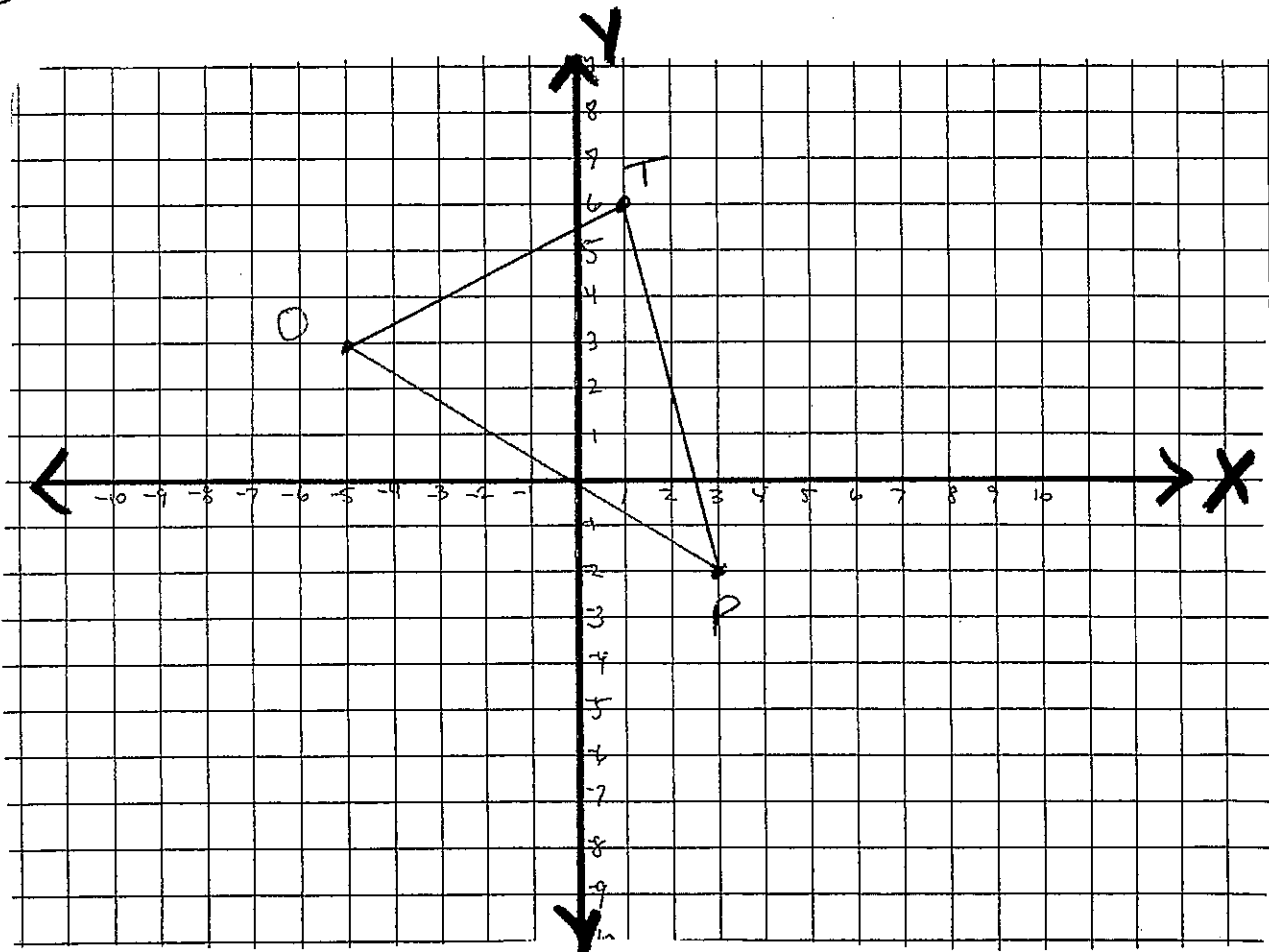


**TRANSLATIONS ARE A SLIDE.**

⑩ Translate figure ABCDE five units down.

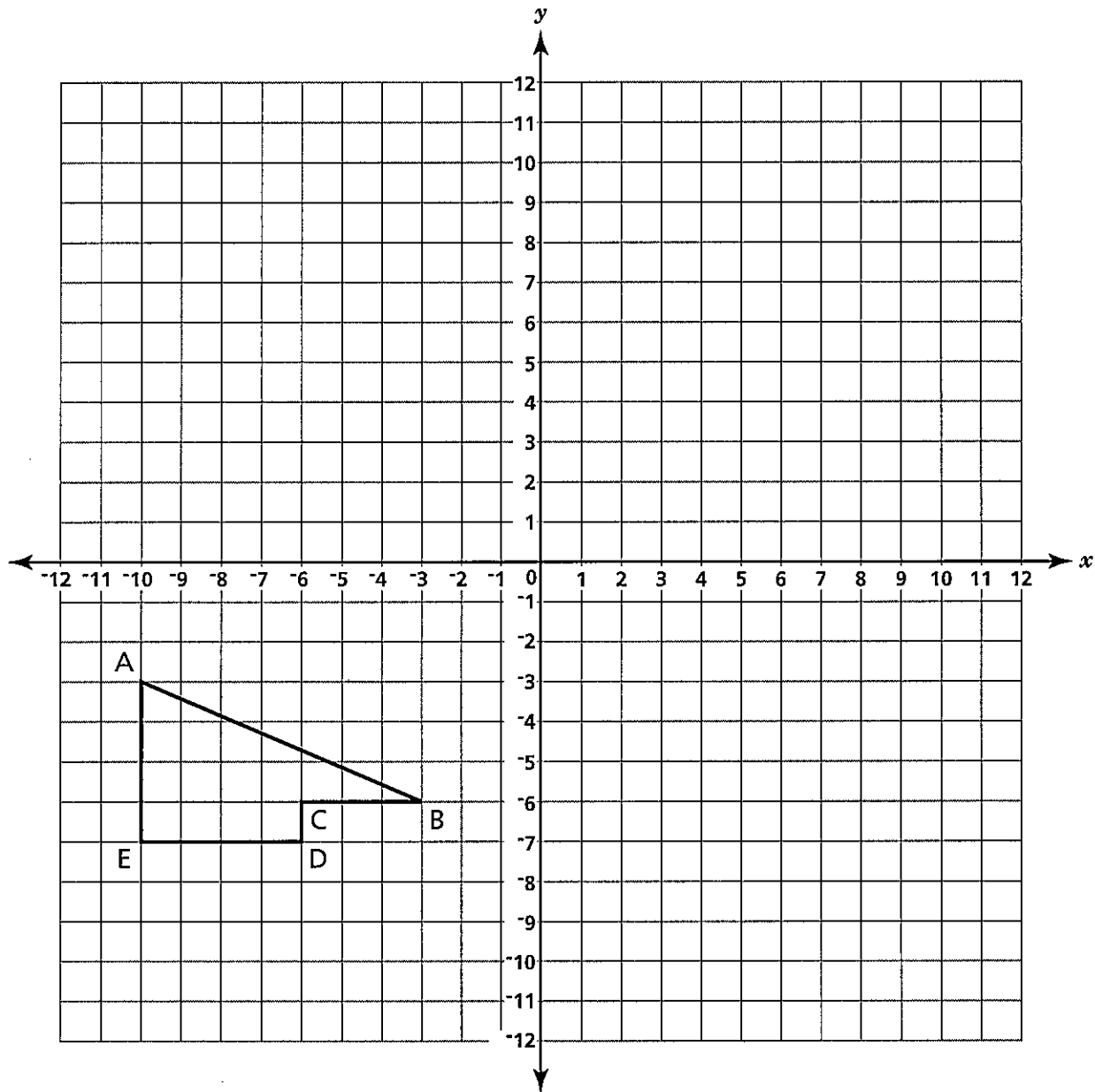


⑪ Translate figure TOP three units to the right.



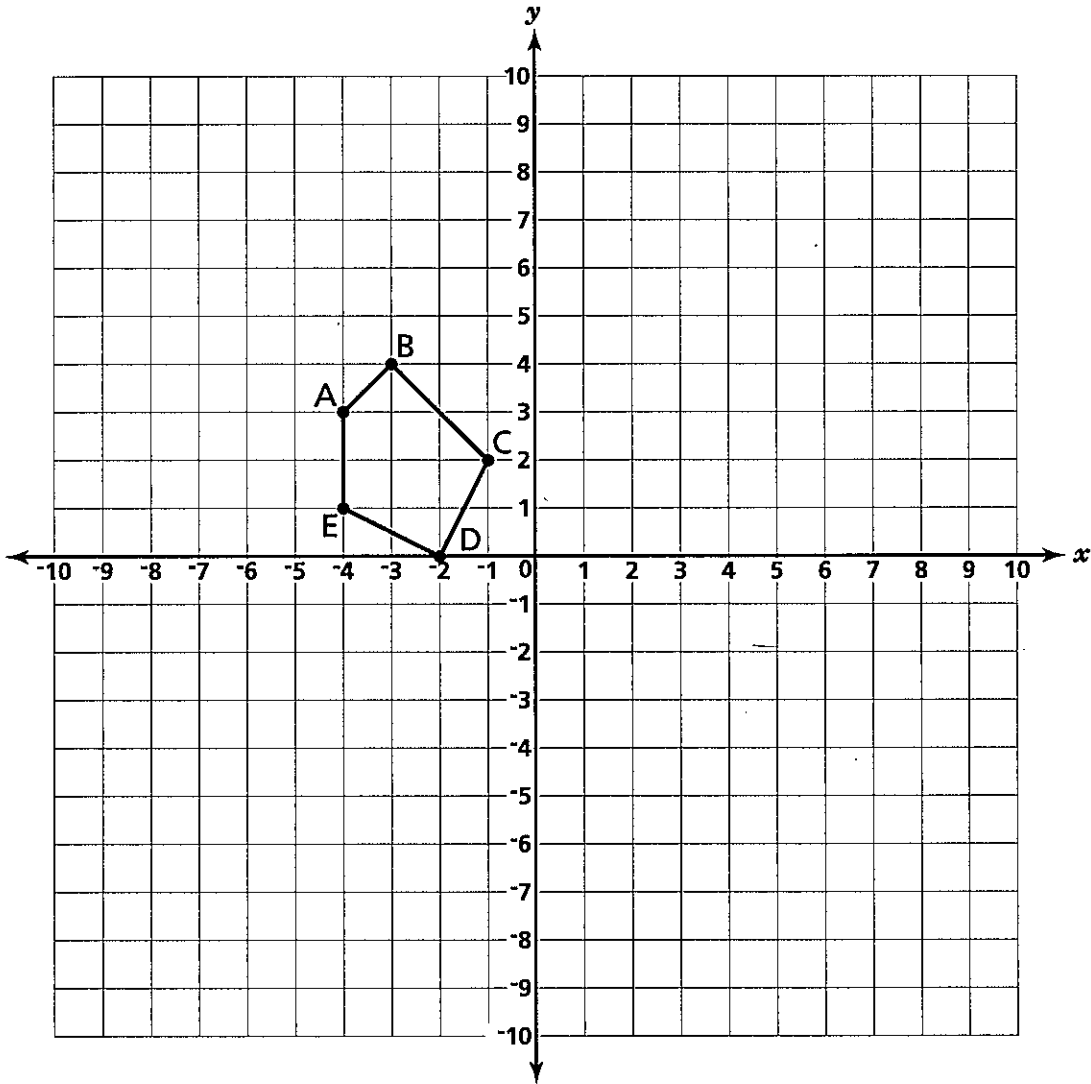
12)

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



13)

Pentagon ABCDE is plotted on the grid below.



**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'.

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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  $M'$

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

