

Printout

Wednesday, December 7, 2016 11:24 AM

Geo H
Transformations Day 2

Plot the points $A(-6, 6)$, $B(-4, 4)$, and $C(0, 4)$.

1st: Reflect over $y = 3$.

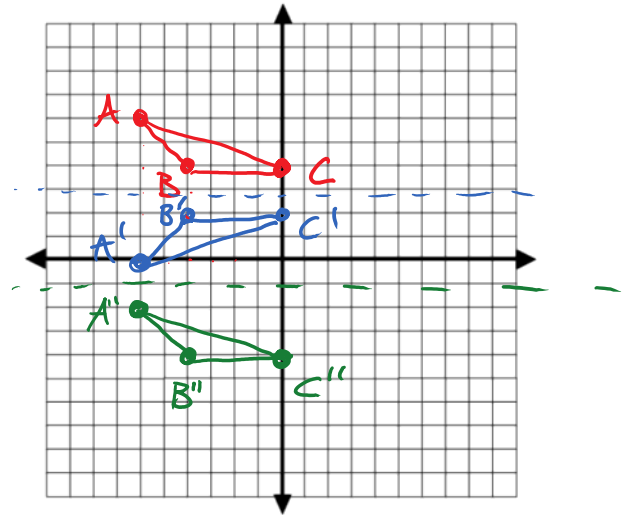
2nd: Reflect over $y = -1$.

Compare your pre-image to your final image.

Double reflection over \parallel lines is a Translation

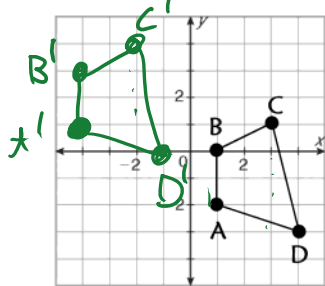
$$(x, y) \rightarrow (x+3, y+7)$$

$$V: \langle 3, 7 \rangle$$



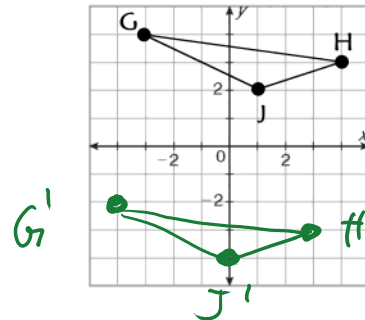
Directions: Translate the figure with the given vertices along the given vector. Graph the image and the pre-image, if v is the translation vector.

1) $A(1, -2)$, $B(1, 0)$, $C(3, 1)$, $D(4, -3)$; $v: \langle -5, 3 \rangle$



$$A'(-4, 1)$$

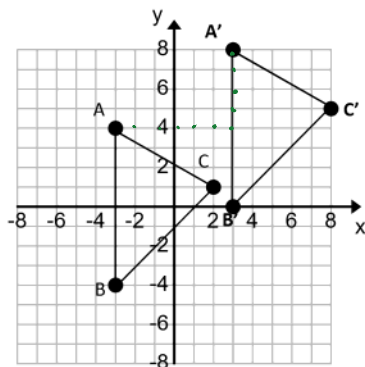
2) $G(-3, 4)$, $H(4, 3)$, $J(1, 2)$; $v: \langle -1, -6 \rangle$



$$G': (-4, -2)$$

Directions: Given the figure or scenario, determine the translation vector that would translate the pre-image to the image.

3) Vector = $\langle 6, 4 \rangle$



4) Leigh and Derek are tossing a flying disk. Leigh stands at $(2, 5)$ and throws the disc to Derek at $(11, 0)$. Find the translation vector from Leigh to Derek.

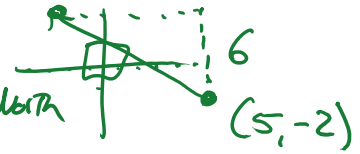
$$\langle 9, -5 \rangle$$

5) A car starts from an office building, which is 5 mi east & 2 mi south of the town center. The car travels 6 mi north, makes a left turn and then travels 8 mi.

a) What is the car's final position?

$(-3, 4)$

3 miles west and 4 mi. north of town center



b) What single translation vector moves the car from its starting position to its final position?

$\langle -8, 6 \rangle$

6) A community wants to move a skateboard park for safety and noise reasons. The volunteers decide to move the skateboard park 128 feet east and 52 feet south. Assuming the positive y-axis on a coordinate plane as north, which function (arrow notation) represents the translation coordinates of the skate park?

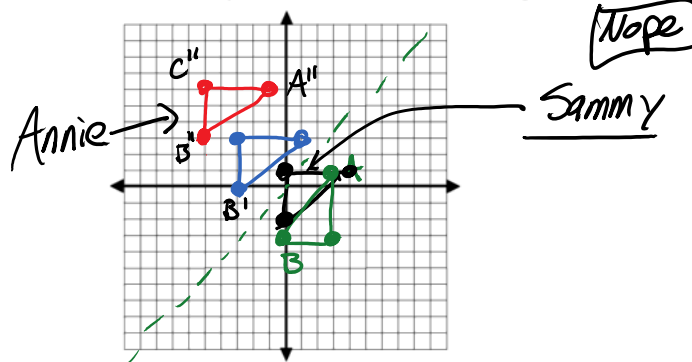
a) $(x, y) \rightarrow (x + 52, y + 128)$

b) $(x, y) \rightarrow (x + 128, y - 52)$

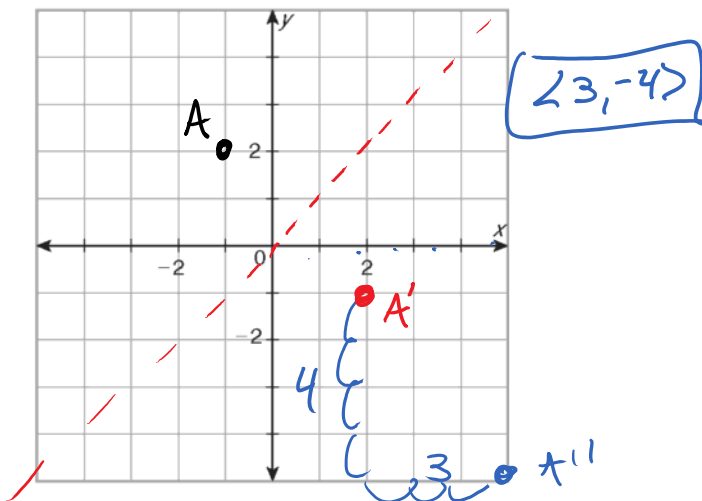
c) $(x, y) \rightarrow (x - 128, y - 52)$

d) $(x, y) \rightarrow (x + 128, y + 52)$

7) Given $\triangle ABC$, A (3, 1), B (0, -3) and C (3, -3). Annie reflects over $y = x$, then translates by $\langle -2, 3 \rangle$. Sammy translates by $\langle -2, 3 \rangle$, then reflects over $y = x$. Does their final image land in the same location?



8) Point A (-1, 2) was mapped to point A'' (5, -5) first by a reflection across the line $y = x$, and then by what translation vector?



9) Point A (3, -4) was mapped to point A'' (3, 1) first by an unknown vector and then by a reflection across the $y = -x$ axis. Find the translation vector.

