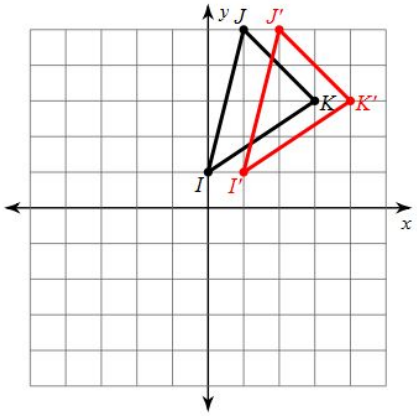
Preimage → the original figure

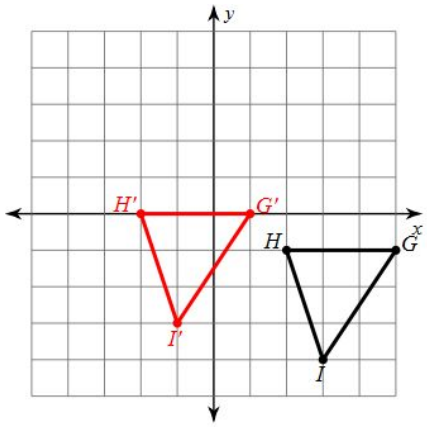
Image → the new transformed figure

Transformation → the operation that moves, the preimage onto the image

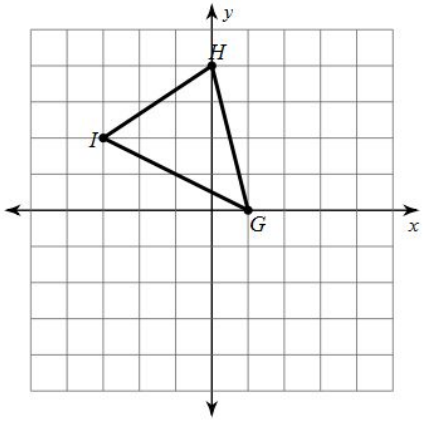
Translations: shifts left, right, up, or down

Identify the Translation:



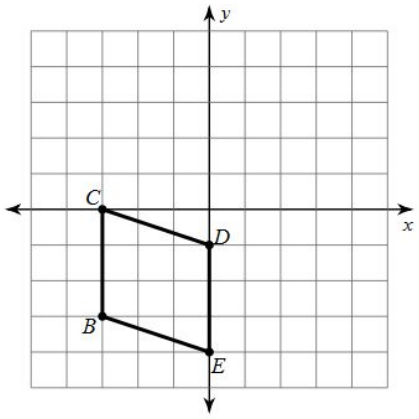


Draw the image of the HIJ translated three units down and two units right.

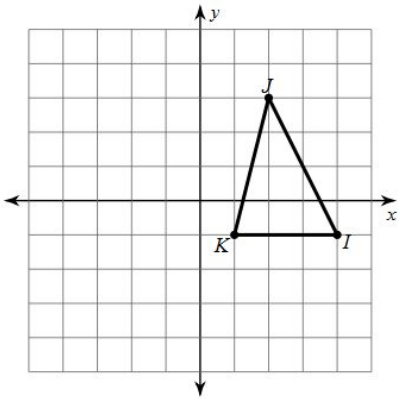


Reflection: reflected over a line creating a mirror image.

Draw the image BCDE reflected across the x-axis



Draw the image of JKI reflected across the y-axis

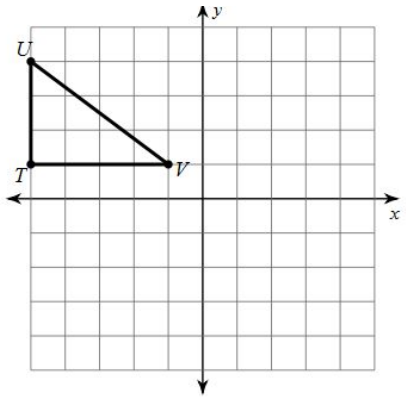


- Reflection in x-axis: $(x, y) \rightarrow (x, -y)$
- Reflection in y-axis: $(x, y) \rightarrow (-x, y)$
- Reflection in $y = x$: $(x, y) \rightarrow (y, x)$
- Reflection in $y = -x$: $(x, y) \rightarrow (-y, -x)$
- For other vertical or horizontal lines, easiest way is to count boxes or fold paper!!

Rotation: turned about a fixed point a given number of degrees.

Rotation of 90° counter-clockwise about the origin	$(x, y) \rightarrow (-y, x)$
Rotation of 180° about the origin	$(x, y) \rightarrow (-x, -y)$
Rotation of 270° counter-clockwise about the origin	$(x, y) \rightarrow (y, -x)$

Rotate the image 180° about the origin



Rotate the image 270° about the origin