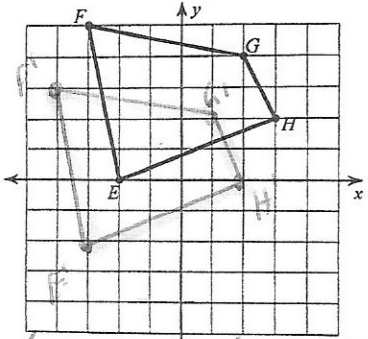


Chapter 1 Test Review SHOW YOUR WORK!

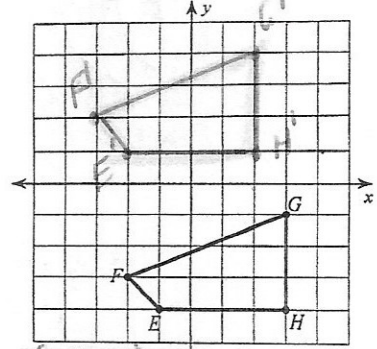
Graph the image of the figure using the transformation given. Then state the transformation in rule form underneath the graph.

1) translation: 1 unit left and 2 units down



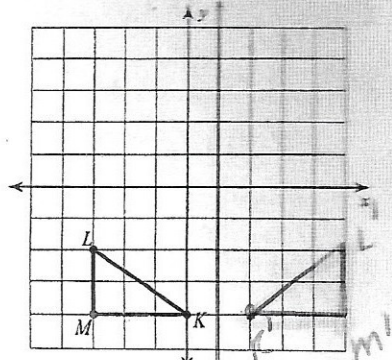
$(x, y) \rightarrow (x-1, y-2)$

2) translation: $(-1, 5)$

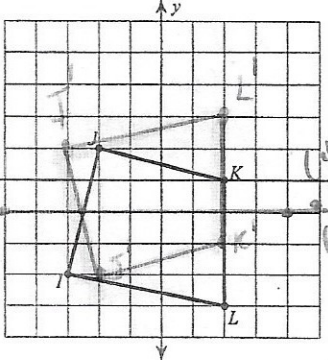


$(x, y) \rightarrow (x-1, y+5)$

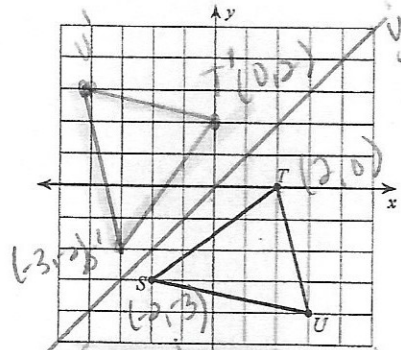
3) reflection across $x = 1$



4) reflection across $y = -1$

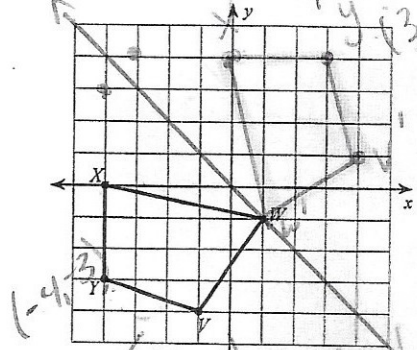


5) reflection across $y = x$



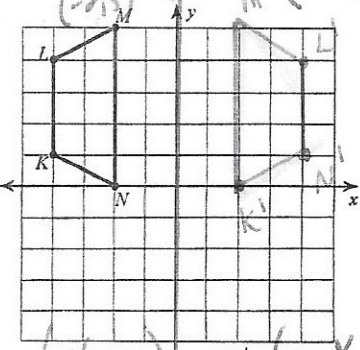
$(x, y) \rightarrow (y, x)$

6) reflection across $y = \frac{1}{2}x + 0$



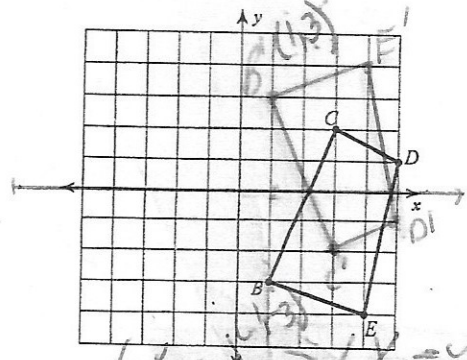
$(x, y) \rightarrow (-y, -x)$

7) reflection across the y-axis



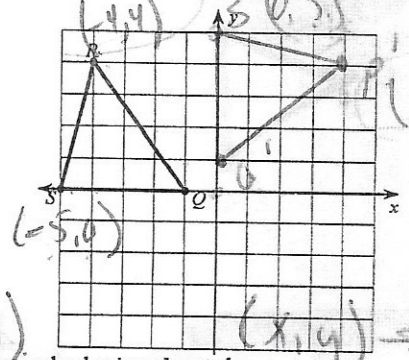
$(x, y) \rightarrow (-x, y)$

8) reflection across the x-axis



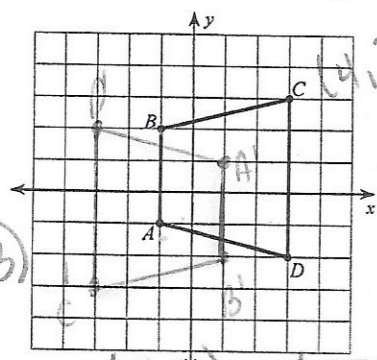
$(x, y) \rightarrow (x, -y)$

9) rotation 90° clockwise about the origin



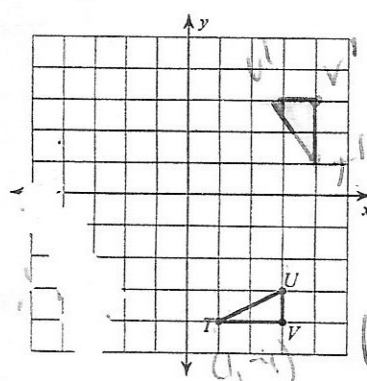
$(x, y) \rightarrow (y, -x)$

10) rotation 180° about the origin



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

11) rotation 90° counterclockwise about the origin

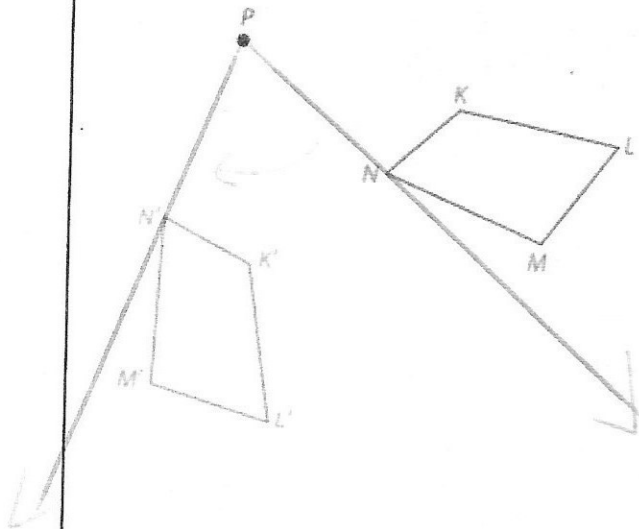


$(x, y) \rightarrow (-y, x)$

T (1, -4) -> (4, 1)
U (3, -3) -> (3, 4)
V (3, -4) -> (4, 3)

WJ

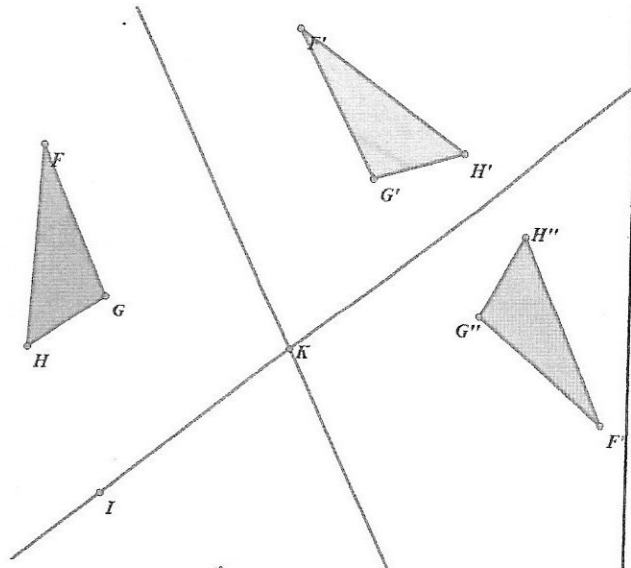
22) State the angle and direction of rotation (both directions) for the problem below. P is the center of rotation.



-70° , 290°
(cw), (ccw)

23) In the diagram below, triangle FGH is reflected twice over the intersecting lines shown. If the measure of the acute angle formed by the lines is 75° ,

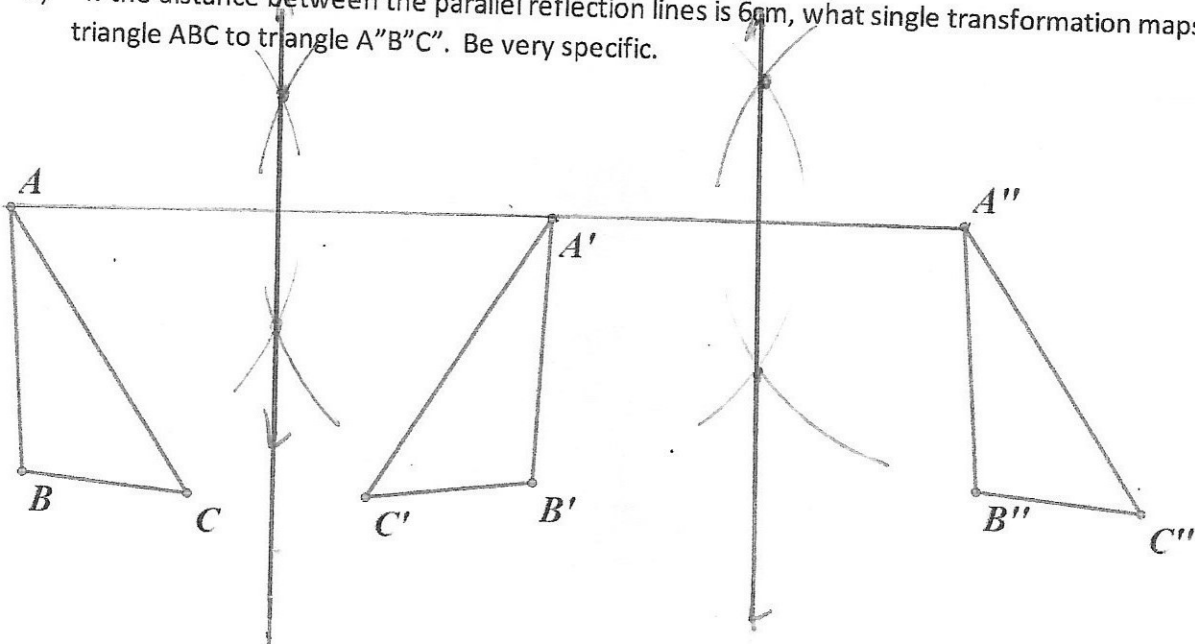
State the single transformation that maps triangle FGH to triangle F''G''H''. Be very specific.



-150° rotation
(cw)

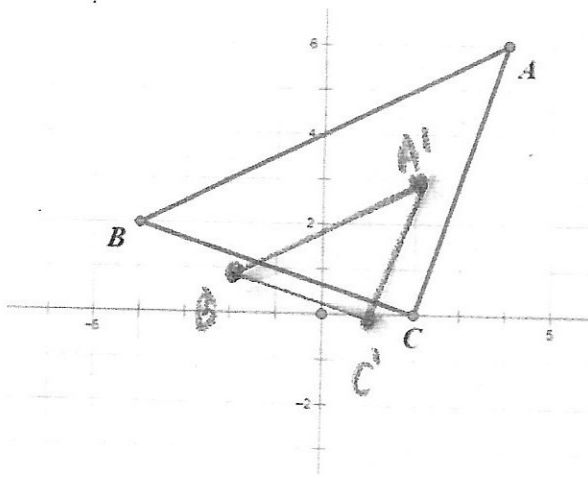
24) Triangle ABC is reflected twice over parallel lines (not shown):

- Construct the two lines of reflection.
- If the distance between the parallel reflection lines is 6cm, what single transformation maps triangle ABC to triangle A''B''C''. Be very specific.



25) Perform the indicated transformation on the triangle below. Is the image congruent to the preimage? Why or why not? *No, a dilation changes size.*

$$(x, y) \rightarrow \left(\frac{1}{2}x, \frac{1}{2}y \right)$$



$$A(4,6) \rightarrow A'(2,3)$$

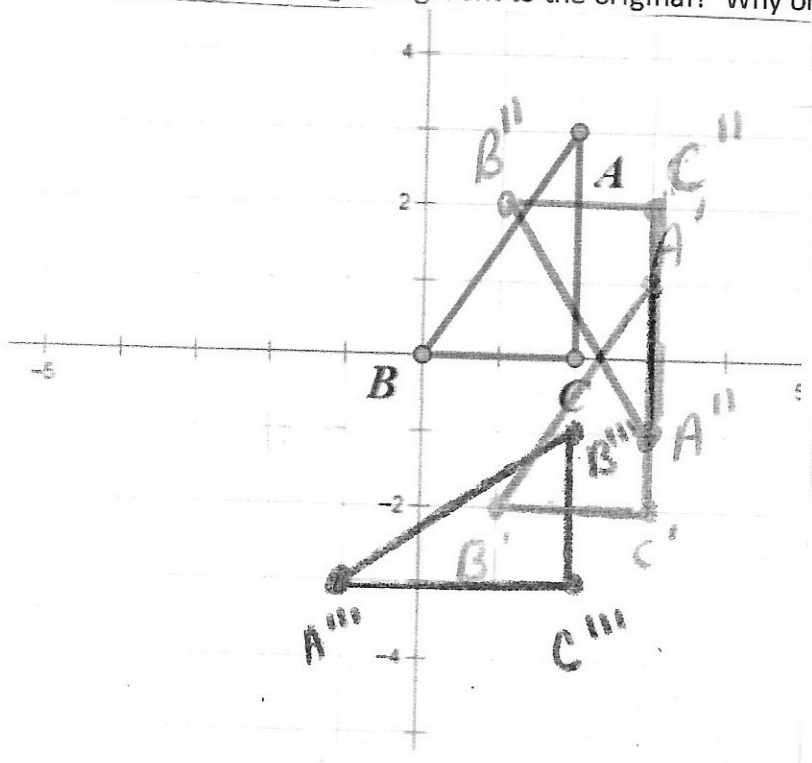
$$B(-4,2) \rightarrow B'(-2,1)$$

$$C(2,0) \rightarrow C'(1,0)$$

26) Perform the following sequence of transformations on the diagram below:

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

Is the final image congruent to the original? Why or why not?



$$A(2,3) \xrightarrow{(x+1, y-2)} A'(3,1) \xrightarrow{(x, -y)} A''(3,-1) \xrightarrow{(y, -x)} A'''(-1,-3)$$

$$B(0,0) \rightarrow B'(1,-2) \rightarrow B''(1,2) \rightarrow B'''(2,-1)$$

$$C(2,0) \rightarrow C'(3,-2) \rightarrow C''(3,2) \rightarrow C'''(2,-3)$$