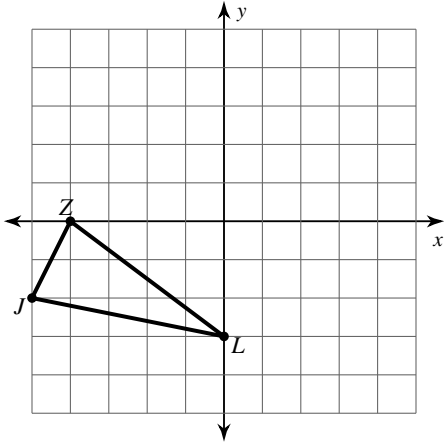


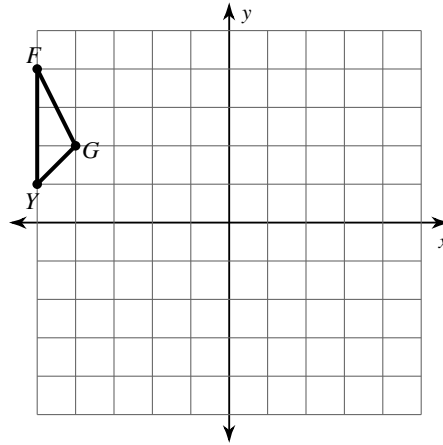
All Transformations

Graph the image of the figure using the transformation given.

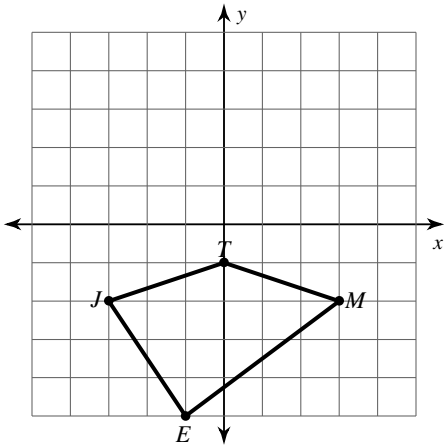
- 1) rotation 90° counterclockwise about the origin



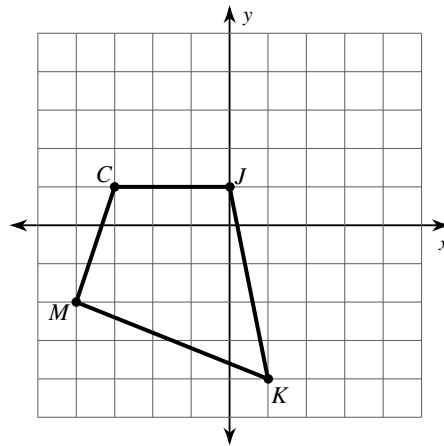
- 2) translation: 4 units right and 1 unit down



- 3) translation: 1 unit right and 1 unit up

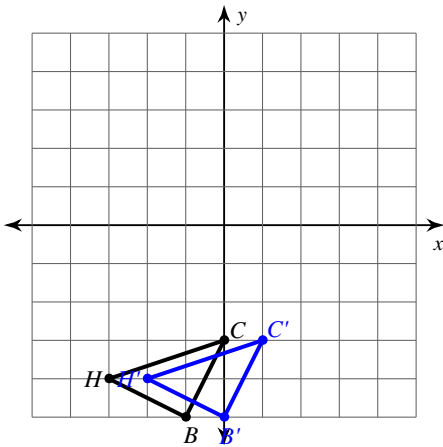


- 4) reflection across the x-axis

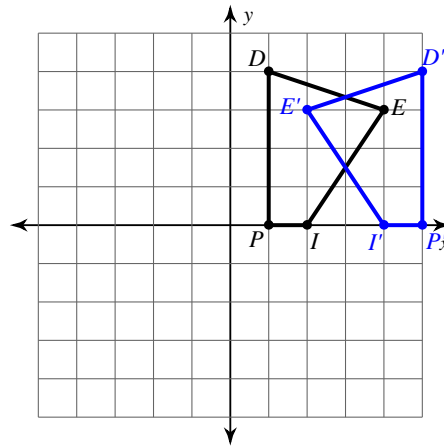


Write a rule to describe each transformation.

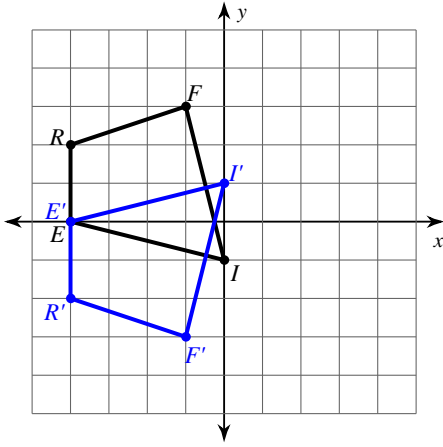
- 5)



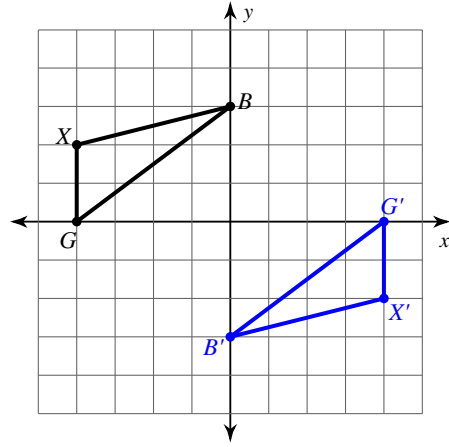
- 6)



7)

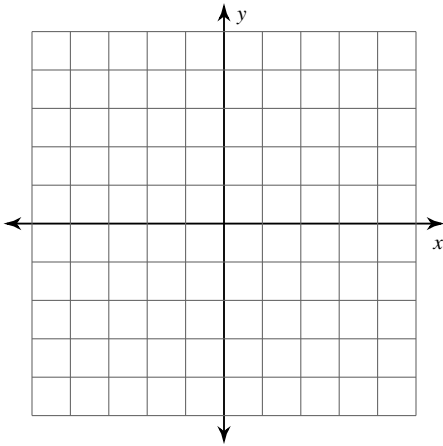


8)

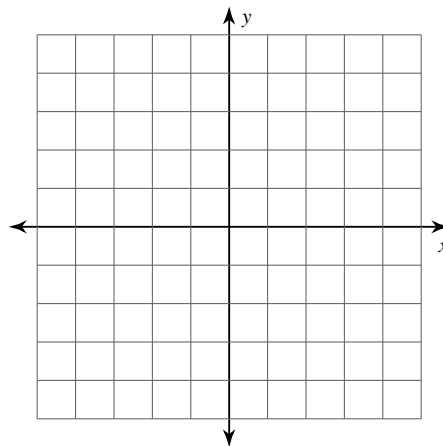


Graph the image of the figure using the transformation given, and write the new coordinates of the vertices.

9) rotation 90° clockwise about the origin
 $B(-2, 0)$, $C(-4, 3)$, $Z(-3, 4)$, $X(-1, 4)$



10) reflection across $y = x$
 $K(-5, -2)$, $A(-4, 1)$, $I(0, -1)$, $J(-2, -4)$



Find the coordinates of the vertices of each figure after the given transformation.

11) rotation 180° about the origin
 $E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

12) reflection across $y = 2$
 $J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$

13) translation: 7 units right and 1 unit down
 $J(-3, 1)$, $F(-2, 3)$, $N(-2, 0)$

14) translation: 6 units right and 3 units down
 $S(-3, 3)$, $C(-1, 4)$, $W(-2, -1)$