Kuta Software - Infinite Geometry

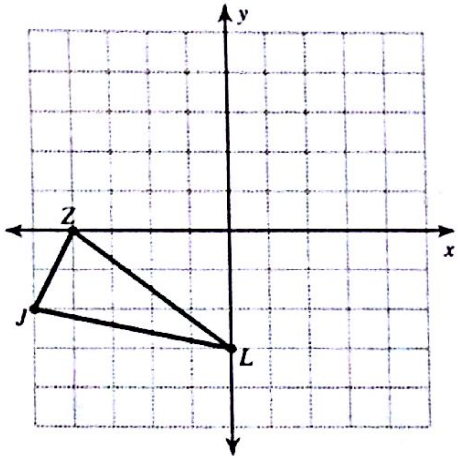
Name_____

All Transformations

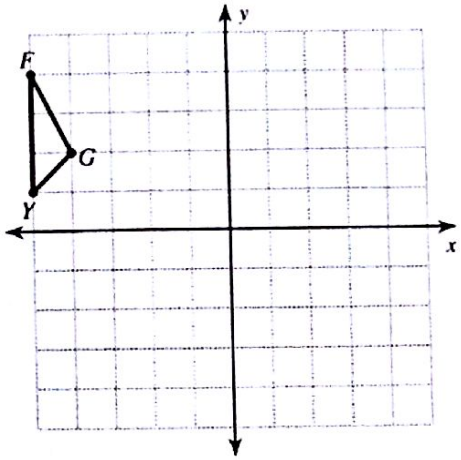
Date_____ Period____

Graph the image of the figure using the transformation given.

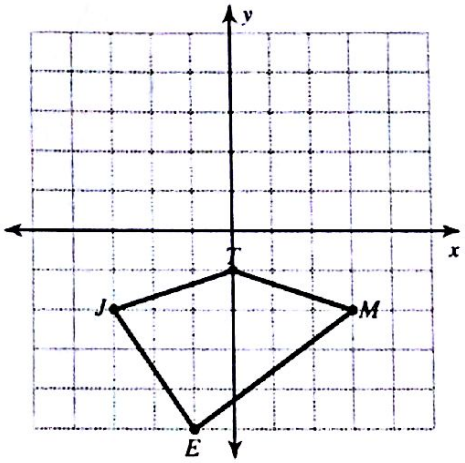
1) rotation 90° counterclockwise about the origin



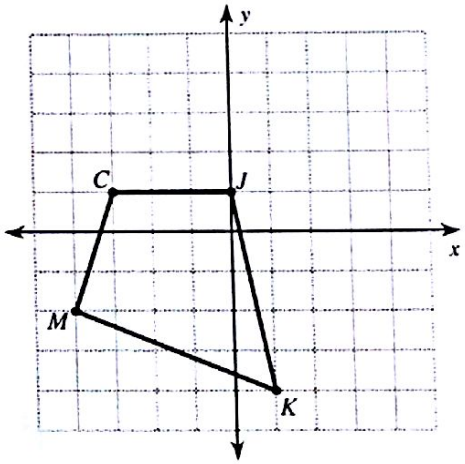
2) translation: 4 units right and 1 unit down



3) translation: 1 unit right and 1 unit up

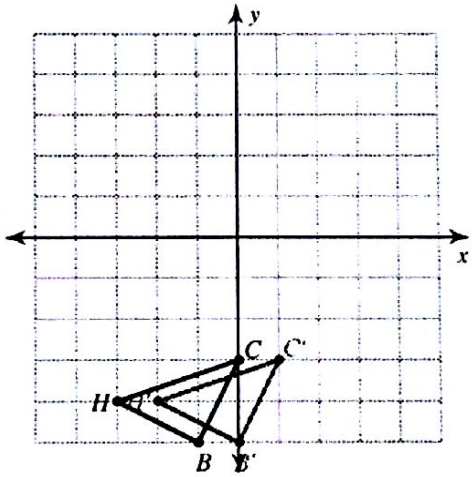


4) reflection across the x-axis

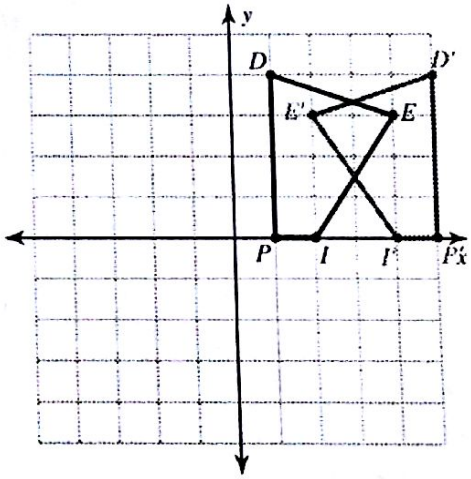


Write a rule to describe each transformation.

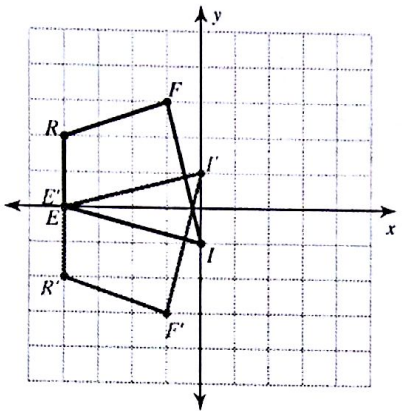
5)



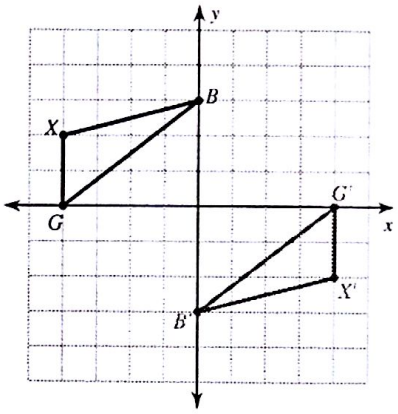
6)



7)

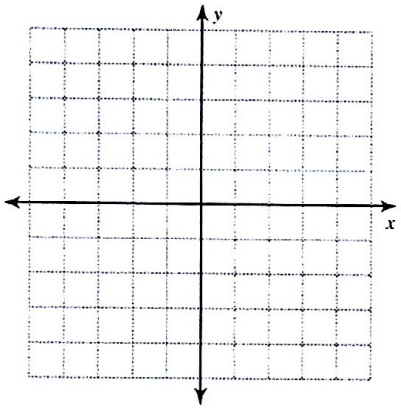


8)

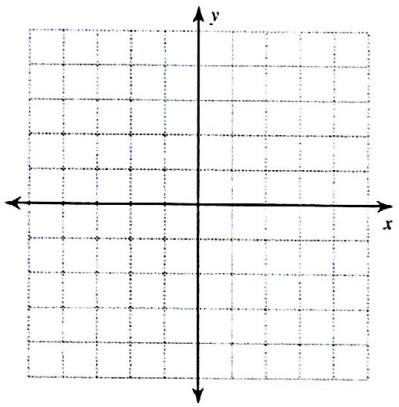


Graph the image of the figure using the transformation given.

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



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



Find the coordinates of the vertices of each figure after the given transformation. (write a rule first!)

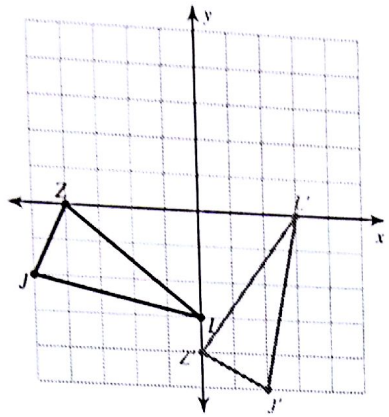
11) rotation 180° about the origin
$E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

12) reflection across x-axis then translate up 2.
$J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$

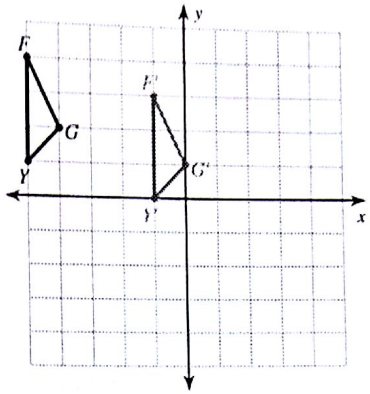
13) translation: 7 units right and 1 unit down
$J(-3, 1)$, $F(-2, 3)$, $N(-2, 0)$

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

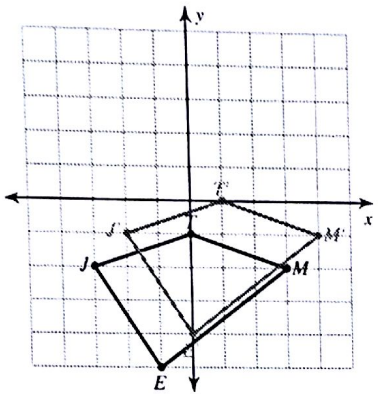
1) rotation 90° counterclockwise about the origin



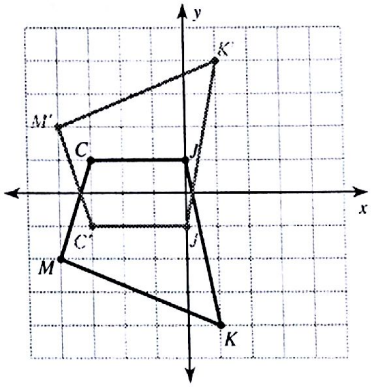
2) translation: 4 units right and 1 unit down



3) translation: 1 unit right and 1 unit up

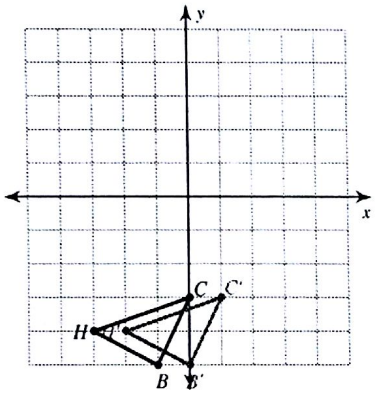


4) reflection across the x-axis



Write a rule to describe each transformation.

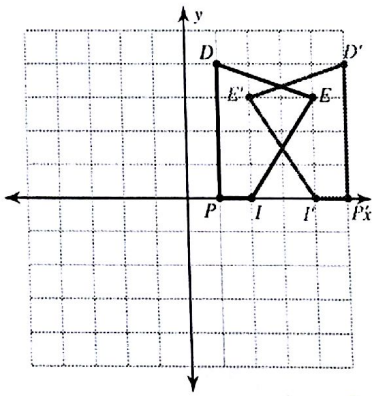
5)



translation: 1 unit right

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

6)



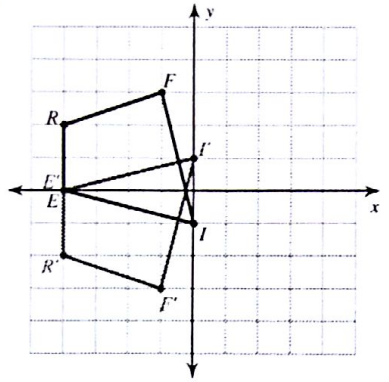
reflection across y-axis then translate right 6

$(x,y) \rightarrow (-x+6, y)$

or

$(-(x-6), y)$

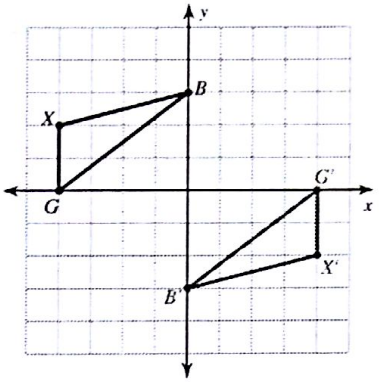
7)



reflection across the x-axis

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

8)

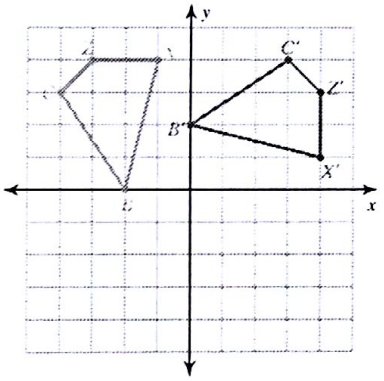


rotation 180° about the origin or reflection across x-axis and y-axis

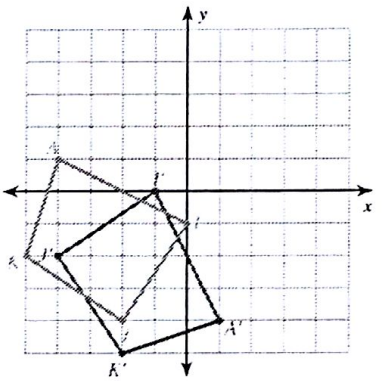
$(x, y) \rightarrow (-x, -y)$

Graph the image of the figure using the transformation given.

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
$E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

$E'(-2, 2)$, $J'(-1, -2)$, $R'(-3, -3)$, $S'(-5, -2)$

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

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

$U'(0, -1)$, $R'(1, -1)$, $C'(3, 2)$, $J'(1, 1)$

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

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

$J'(4, 0)$, $F'(5, 2)$, $N'(5, -1)$

$(x, y) \rightarrow (x+7, y-1)$

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

$S'(3, 0)$, $C'(5, 1)$, $W'(4, -4)$

$(x, y) \rightarrow (x+6, y-3)$