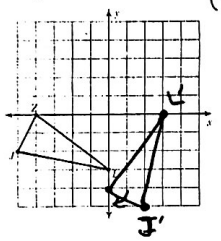
Name KEY

All Transformations

Graph the image of the figure using the transformation given.

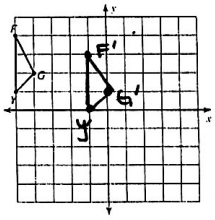
1) rotation 90° counterclockwise about the origin

(−y, x)

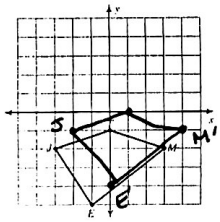


Z'(0,-4
J(2 -5
L'(3,0

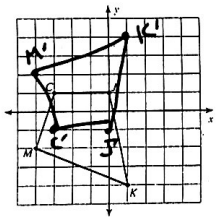
2) translation: 4 units right and 1 unit down



3) translation: 1 unit right and 1 unit up

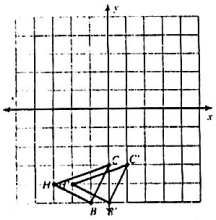


4) reflection across the x-axis



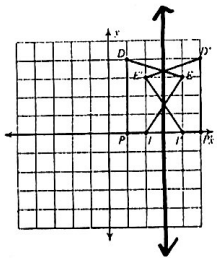
Write a rule to describe each transformation.

5)



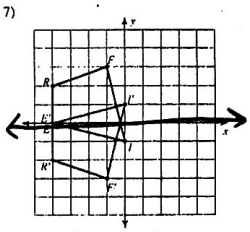
(x, y) → (x+1, y)

6)



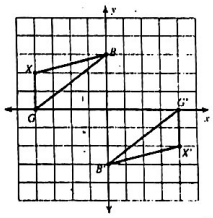
reflect in x = 3

7)



reflect in x-axis

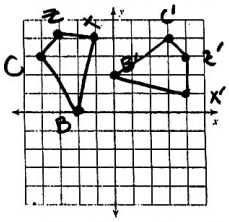
8)



rotate 180°

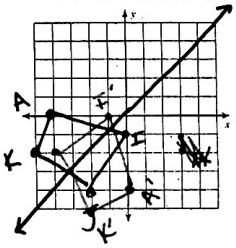
Graph the image of the figure using the transformation given.

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



B'(0,2) Z'(4,3)
C'(3,4) X'(4,1)

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)

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

J'(1, 1) R(1,-1) C'(3,2)

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

(x+7, y-1)

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

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

(x+6, y-3)

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