

Reflections and Rotations Practice

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

1. Reflection across the x-axis. $x, -y$
 $R(-2, 2) \rightarrow -2, -2$
 $J(-1, 4) \rightarrow -1, -4$
 $G(3, 4) \rightarrow 3, -4$

2. Reflect across the y-axis. $-x, y$
 $H(1, -3) \rightarrow -1, -3$
 $Z(1, 2) \rightarrow -1, 2$
 $W(4, 1) \rightarrow -4, 1$

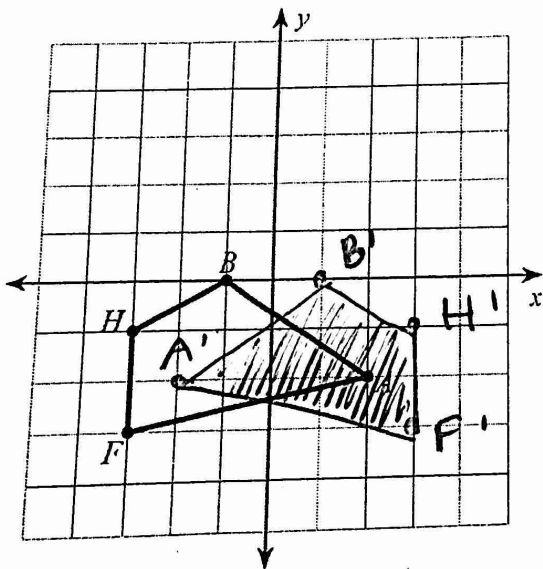
3. Reflect across the line $y = x$. y, x
 $E(-4, -2) \rightarrow -2, -4$
 $N(-1, 0) \rightarrow 0, -1$
 $A(1, -3) \rightarrow -3, 1$

4. Reflect across the line $y = -x$. $-y, -x$
 $N(-4, 2) \rightarrow -2, 4$
 $L(-1, 3) \rightarrow -3, 1$
 $R(-1, 2) \rightarrow -2, 1$

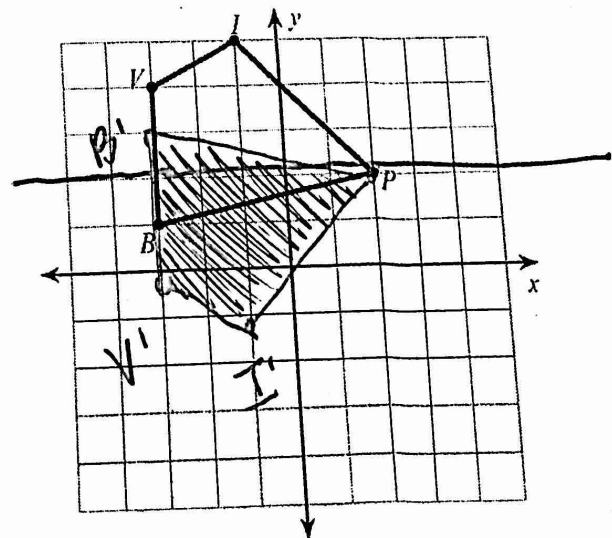
5. Reflect across the y-axis. $-x, y$
 $R(1, -5) \rightarrow -1, -5$
 $Y(0, -3) \rightarrow 0, -3$
 $U(2, 0) \rightarrow -2, 0$
 $V(4, -2) \rightarrow -4, -2$

6. Reflect across the line $y = -x$. $-y, -x$
 $Z(-5, -2) \rightarrow 2, 5$
 $P(-5, 2) \rightarrow -2, 5$
 $N(-3, 3) \rightarrow -3, 3$
 $A(-2, 0) \rightarrow 0, 2$

7. Reflect the image.
reflection across the y-axis



8. Reflect the image.
reflection across the ~~x-axis~~ $y = 2$ first



Write a rule to describe each transformation.

9. $Z(0,-4) \rightarrow Z'(0,4)$ $X, -Y$
 $W(1,0) \rightarrow W'(1,0)$
 $S(3,0) \rightarrow S'(3,0)$ SO
 reflect over x

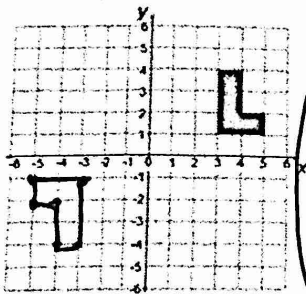
10. $Q(-4,-3) \rightarrow Q'(4,-3)$ $-X, Y$
 $S(-5,1) \rightarrow S'(5,1)$
 $L(-2,-1) \rightarrow L'(2,-1)$ so reflect over y axis

11. $N(1,2) \rightarrow N'(1,-2)$ $X, -Y$
 $E(1,5) \rightarrow E'(1,-5)$
 $C(5,2) \rightarrow C'(5,-2)$ reflect over x

12. $J(1,2) \rightarrow J'(-1,2)$ $-X, Y$
 $S(1,5) \rightarrow S'(-1,5)$
 $X(5,2) \rightarrow X'(-5,2)$ reflect over y axis

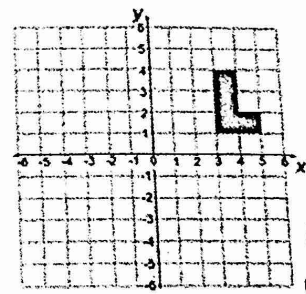
Where will the L-Shape be if it is...

a. rotated 180° around the origin



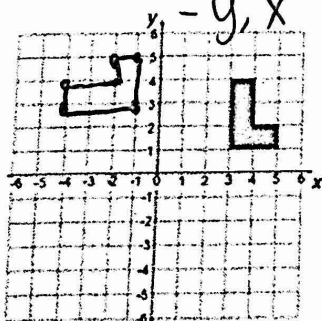
preimage
 5,2 -5,-2
 3,1 -3,-1
 5,1 -5,-1
 3,4 -3,-4
 4,4 -4,-4
 4,2 -4,-2

b. rotated 90° clockwise around the origin?

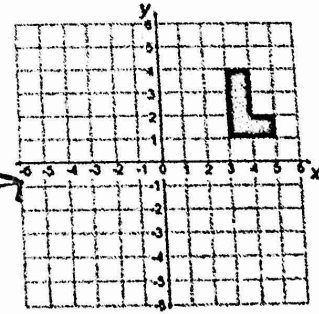


$y, -x$
 2,-5
 1,-3
 1,-5
 4,-3
 4,-4
 2,-4

c. rotated 90° counterclockwise around the origin?



d. rotated 270° clockwise around the origin?

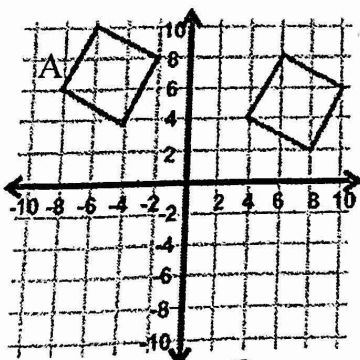


same answer for these two

-2,5
 -1,3
 -1,5
 4,3
 4,4
 2,4

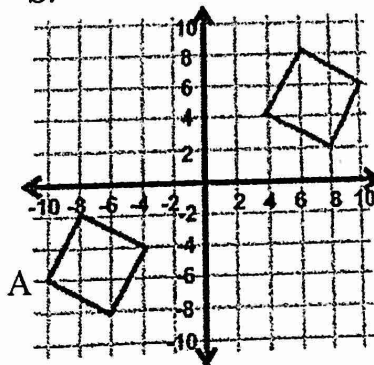
Find the angle of rotation for the graphs below. The center of rotation is the origin, and the Image labeled A is the preimage. Your answer will be 90°, 180°, or 270°.

a.



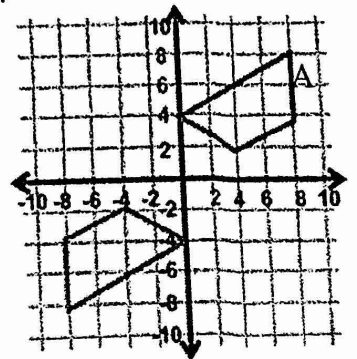
90

b.



180

c.



180