

1H Mastering Rigid Motions

Name _____

1. Does the transformation preserve orientation?

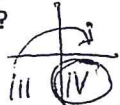
no; it is a reflection

2. Which way does a positive angle of rotation turn a figure?

*if direction is not mentioned?
counter-clockwise*

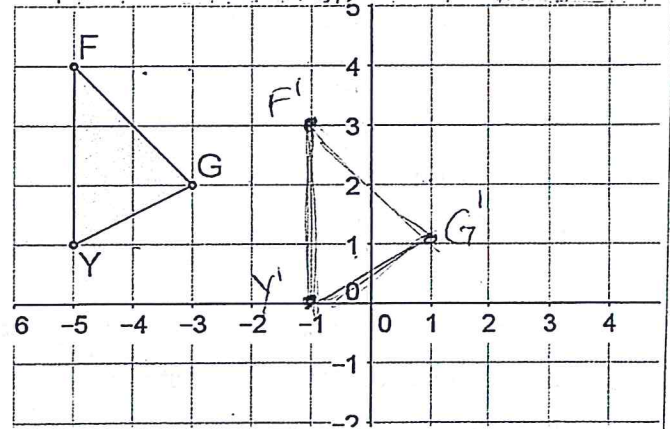
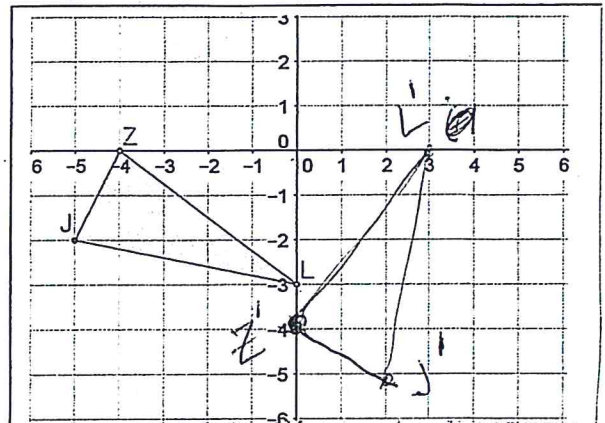
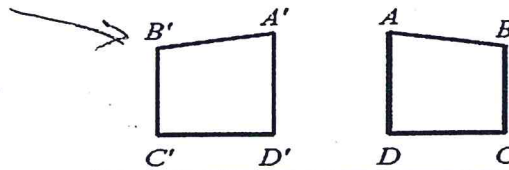
3. Rotate the image on the graph 90° about the origin.

4. A rectangle is located entirely in quadrant III. If this rectangle is reflected across the y-axis, in which quadrant will the new rectangle be located?



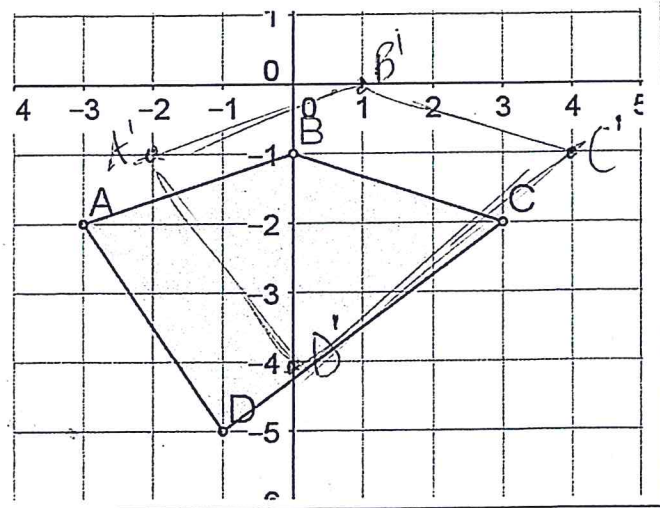
5. The vertices of $\triangle ABC$ are $A(-4,2)$, $B(-1,-3)$, and $C(6,5)$. The triangle is translated 2 units to the right and then reflected about the line $y = 1$. What is the final location of point A? *$(-2,0)$*

6. Translate the figure 4 units right and 1 unit down.

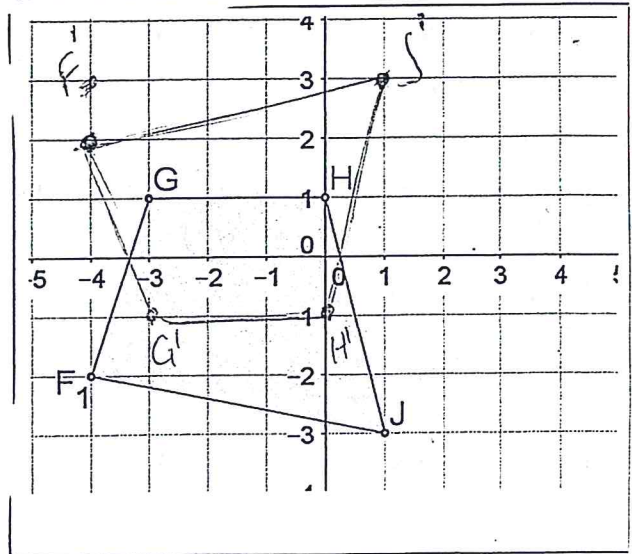


Perform the given transformation.

7. Translation: $(x,y) \rightarrow (x+1,y+1)$



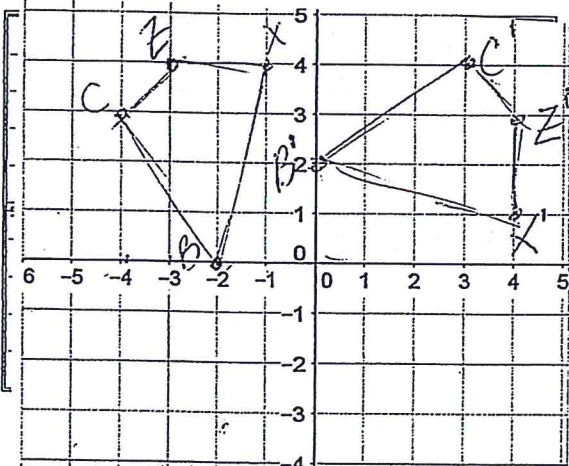
8. Reflection across the x-axis



Graph the image of the figure using the given transformation.

9. Rotation -90° about the origin
clockwise

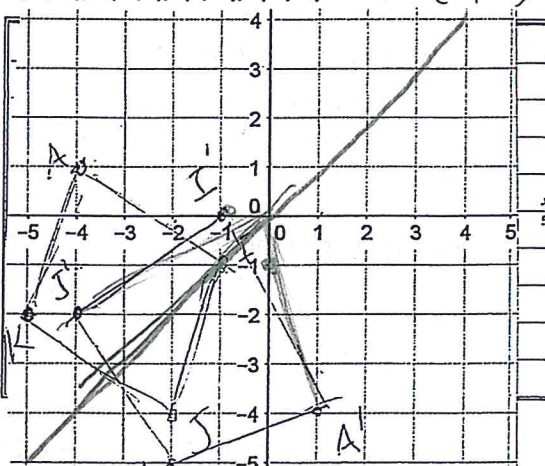
$B(-2,0)$, $C(-4,3)$, $Z(-3,4)$, $X(-1,4)$



10. Reflection across $y=x$

$K(-5,-2)$, $A(-4,1)$, $I(0,-1)$, $J(-2,-4)$

$K'(-2,-5)$ $I'(-1,0)$
 $A'(1,-4)$ $J'(-4,-2)$



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 $y=2$

$J(1,3)$, $U(0,5)$, $R(1,5)$, $C(3,2)$

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

13. Translation: $(x,y) \rightarrow (x+7,y-1)$

$J(-3,1)$, $F(-2,3)$, $N(-2,0)$

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

14. Translation: $(x,y) \rightarrow (x+6,y-3)$

$S(-3,3)$, $C(-1,4)$, $W(-2,-1)$

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

15. Name a transformation that does not preserve orientation

clockwise reflection

16. Find the image of $(4,0)$ under a -90° rotation about the origin

$(0,-4)$

17. Find the image of $(0,5)$ under a 90° rotation about the origin.

$(-5,0)$

Given points $A(5,3)$, $B(-3,2)$, and $C(4,0)$.

18. What is the image of A about the line $x=1$?

$(-3,3)$

Use the given diagram.

19. Identify the transformation using coordinate notation.

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

20. Reflect $\triangle CHB$ about the y -axis. Identify the coordinates of the image.

$C''(0,3)$ $H''(4,-4)$
 $B''(-1,-5)$

