ROTATIONS

Movement instructions	Q	U	A	D
PREIMAGE	(5,6)	(6,2)	(0,0)	(0,5)
90° counterclockwise (−y, x)	(−6,5)	(−2,6)	(0,0)	(−5,0)
180° counterclockwise (−x, −y)	(−5,−6)	(−6,−2)	(0,0)	(0,−5)
270° counterclockwise (y, −x)	(6,−5)	(2,−6)	(0,0)	(5,0)
360° counterclockwise (x, y)	(5,6)	(6,2)	(0,0)	(0,5)

ROTATIONS

Movement instructions	S	U	N
PREIMAGE	(-2,7)	(5,3)	(6,8)
90° clockwise (y, −x)	(7,2)	(3,−5)	(8,−6)
180° clockwise (−x, −y)	(2,−7)	(−5,−3)	(−6,−8)
270° clockwise (−y, x)	(−7,−2)	(−3,5)	(−8,6)
360° clockwise (x, y)	(−2,7)	(5,3)	(6,8)

Name _____ Date _____ Class _____

LESSON

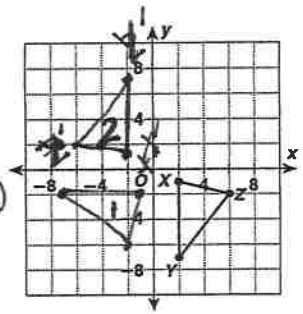
Practice B

Graphing Rotations

Give the coordinates of the vertices of each figure after the given rotation. & Graph

1. Rotate $\triangle XYZ$ clockwise 90° about the origin. (y, −x)

   X′ (−1,−2) Y′ (−7,−2)
   Z′ (−2,−6)

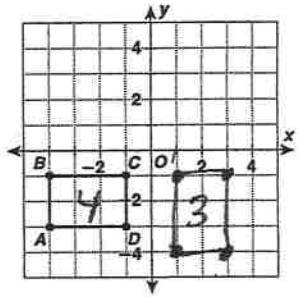


2. Rotate $\triangle XYZ$ counterclockwise 180° about the origin. (−x, −y)

   X′ (−2,1) Y′ (−2,7)
   Z′ (−6,2)

3. Rotate rectangle *ABCD* counterclockwise 90° about the origin. (−y, x)

   A′ (3,−4) B′ (1,−4)
   C′ (1,−1) D′ (3,−1)

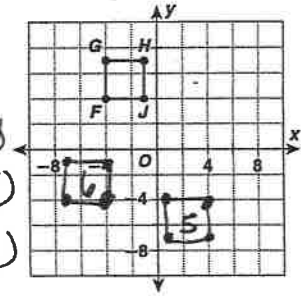


4. Rotate rectangle *ABCD* clockwise 360° about the origin. (x, y)

   A′ (−4,−3) B′ (−4,−1)
   C′ (−1,−1) D′ (−1,−3)

5. Rotate square *FGHJ* 180° clockwise about the origin. (−x, −y)

   F′ (4,−4) G′ (4,−7)
   H′ (1,−7) J′ (1,−4)



6. Rotate square *FGHJ* 90° counterclockwise about the origin. (−y, x)

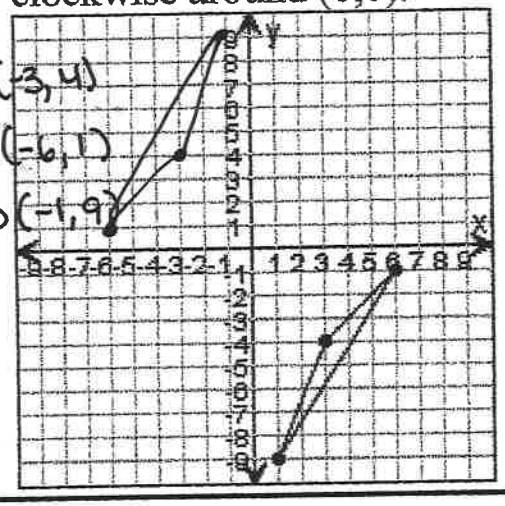
   F′ (−4,−4) G′ (−7,−4)
   H′ (−7,−1) J′ (−4,−1)

$180° \rightarrow (x, y) \rightarrow (-x, -y)$

$90°$ clock | $270°$ counter $(x, y) \rightarrow (y, -x)$

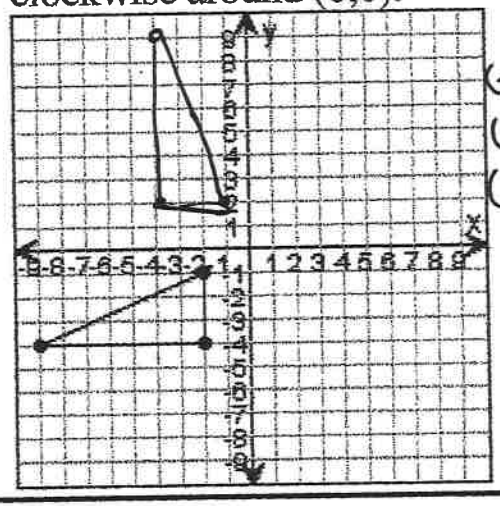
$270°$ clock ~~counter~~ | $90°$ counter $(x, y) \rightarrow (-y, x)$

4. Rotate the triangle 180° counter-clockwise around (0,0).



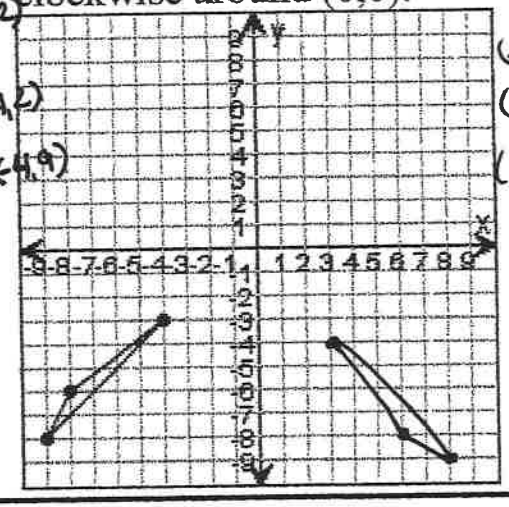
$(3,-4) \rightarrow (-3,4)$
$(6,-1) \rightarrow (-6,1)$
$(1,-9) \rightarrow (-1,9)$

5. Rotate the triangle 270° counter-clockwise around (0,0).



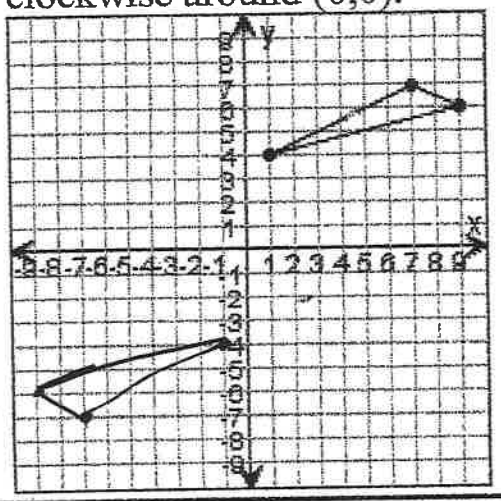
$(-2,-1)$
$(-2,-4)$
$(-9,-4)$

6. Rotate the triangle 90° counter-clockwise around (0,0).

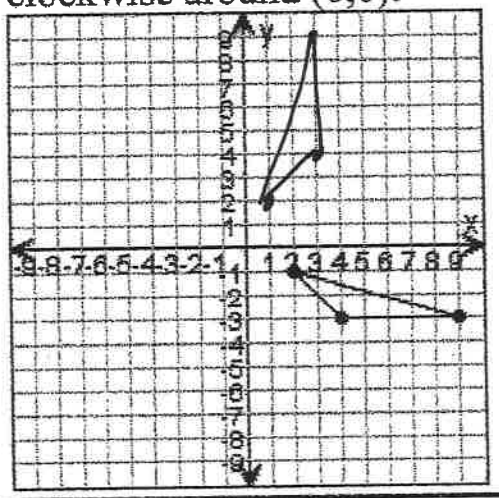


$(-1,2)$
$(-4,2)$
$(-4,9)$
$(-4,-3) \rightarrow (3,$
$(-8,-6)(6,$
$(-9,-8)(8,-9)$

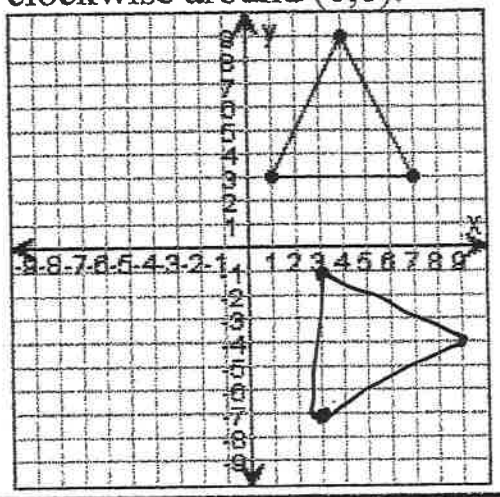
7. Rotate the triangle 180° clockwise around (0,0).



8. Rotate the triangle 270° clockwise around (0,0).



9. Rotate the triangle 90° clockwise around (0,0).



$(1,4) \rightarrow (-1,-4)$ $(7,7) \rightarrow (-7,-7)$
$(9,1) \rightarrow (-9,-1)$

$(2,-1) \rightarrow (1,2)$ $(9,-3) \rightarrow (3,9)$
$(4,-3) \rightarrow (3,4)$

$(1,3) \rightarrow (3,-1)$ $(7,3) \rightarrow (3,-7)$
$(4,9) \rightarrow (9,-4)$