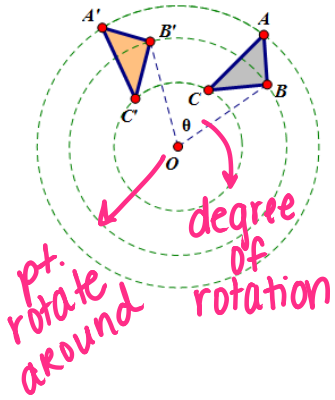
Key

9.3 Rotations



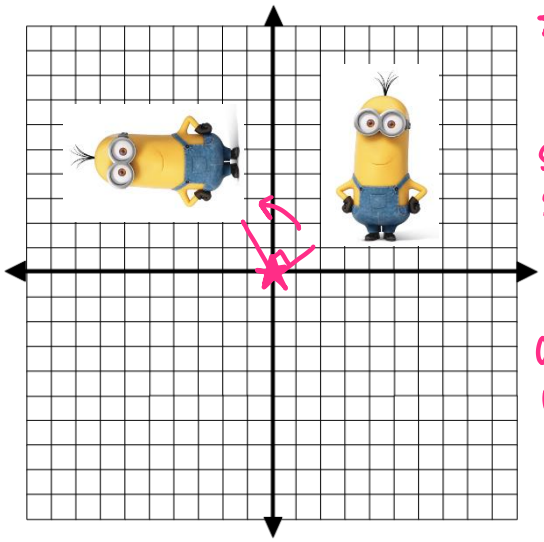
What is a rotation?

A turn around a fixed point.
Either clockwise or counterclockwise.
shape and size do not change.

90° = counterclockwise -90° = clockwise

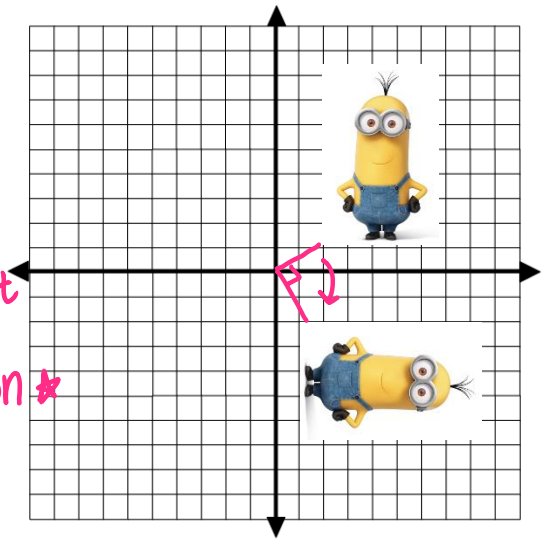
Let's give it a quick try! Sketch where you think the figure would end up in the given rotation.

Rotate 90 degrees about the origin.

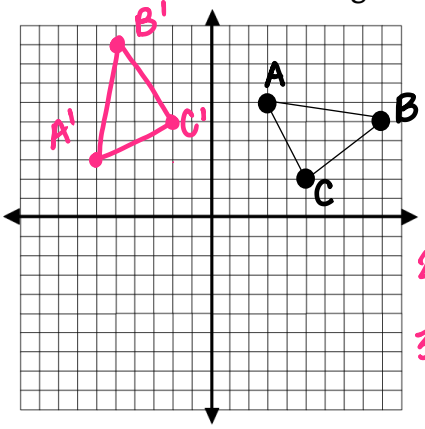


★ just want a quick sketch to see if know Quadrant and orientation ★

Rotate -90 degrees about the origin.

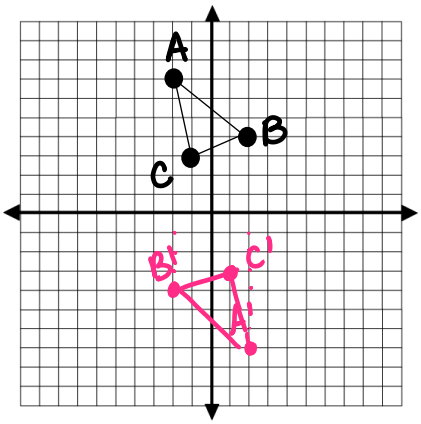


1. Rotate 90° about the origin = $R_{(90°, (0,0))}$



1.) Turn your paper 90° to the left.
2.) Read off the pts.
3.) PLOT the pts.

2. Rotate 180° about the origin = $R_{(180°, (0,0))}$



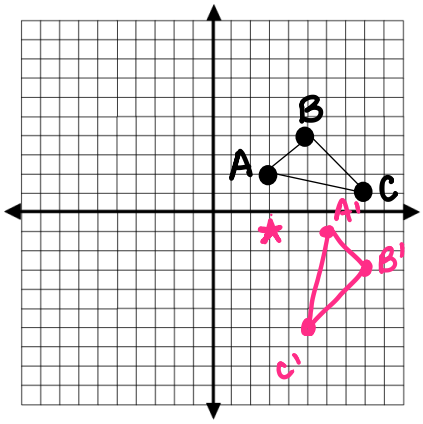
2 turns counterclockwise
↓
does it matter for 180°?

A'(-6, 3), B'(-5, 9), C'(-2, 5)

A'(2, -7), B'(-2, -4), C'(1, -3)

Bring out the patty paper!

3. Rotate -90° about (3, -1)= $R_{(-90°,\ (3,-1))}$

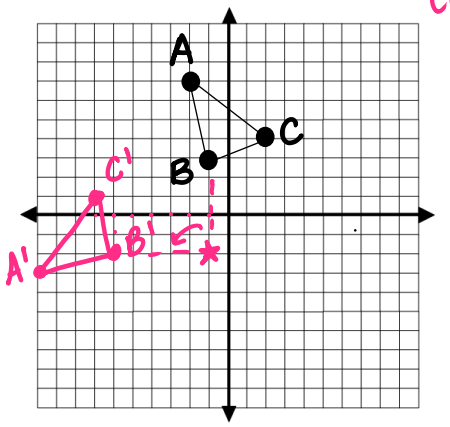


Clockwise around (3,-1)

1 turn

A'(6 , -1), B'(8 , -3), C'(5 , -6)

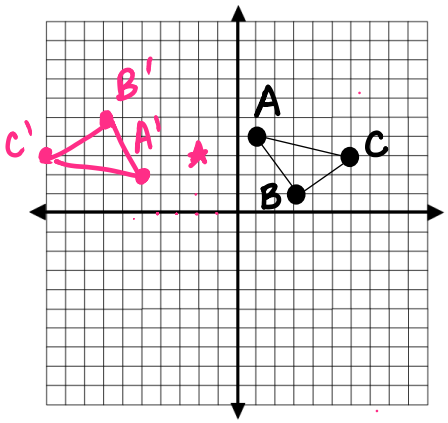
4. Rotate 90° about (-1, -2) = $R_{(90°,\ (-1,\ -2))}$



counterclockwise 1 turn

A'(-10 , -3), B'(-6 , -2), C'(-7 , 1)

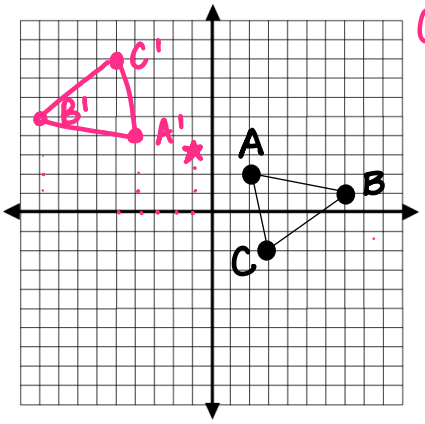
5. Rotate 180° about (-2,3) = $R_{(180°,\ (-2,\ 3))}$



counterclockwise 2 turns

A'(-5 , 2), B'(-7 , 5), C'(-10 , 3)

6. Rotate -180° about (-1, 3) = $R_{(-180°,\ (-1,3))}$

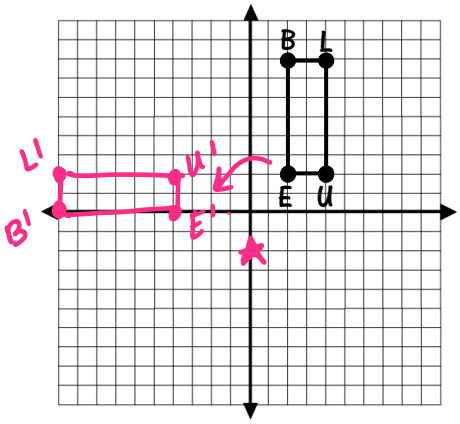


Clockwise 2 turns

A'(-4 , 4), B'(-9 , 5), C'(5 , 8)

Sick of Triangles? Me Too..

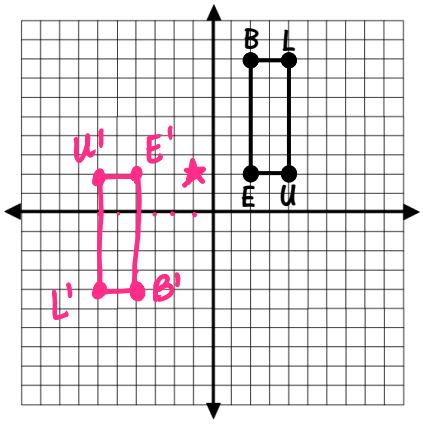
7. Rotate 90° about (0, -2) = $R_{(90°, (0,-2))}$



1 turn counterclockwise

B'(-10, 0), L'(-10, 2), U'(-4, 2), E'(-4, 0)

8. Rotate 180° about (-1, 2) = $R_{(180°, (-1,2))}$



2 turns counterclockwise

B'(-4, -4), L'(-6, -4), U'(-6, 2), E'(-4, 2)