9.3 Rotations

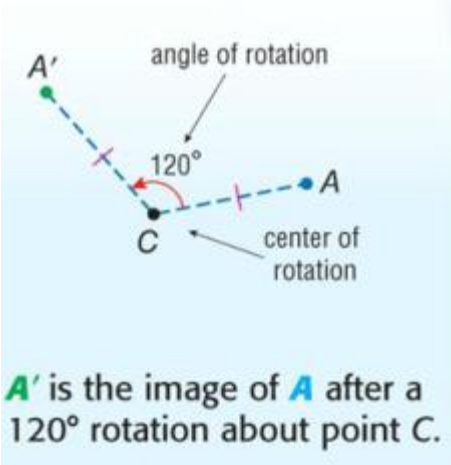
Goals

You will draw a rotation using a protractor and compass.

You will draw a rotation in the coordinate plane

You will identify three-dimensional objects generated by rotations of two-dimensional objects.

Rotation: a transformation that turns a figure around a point.

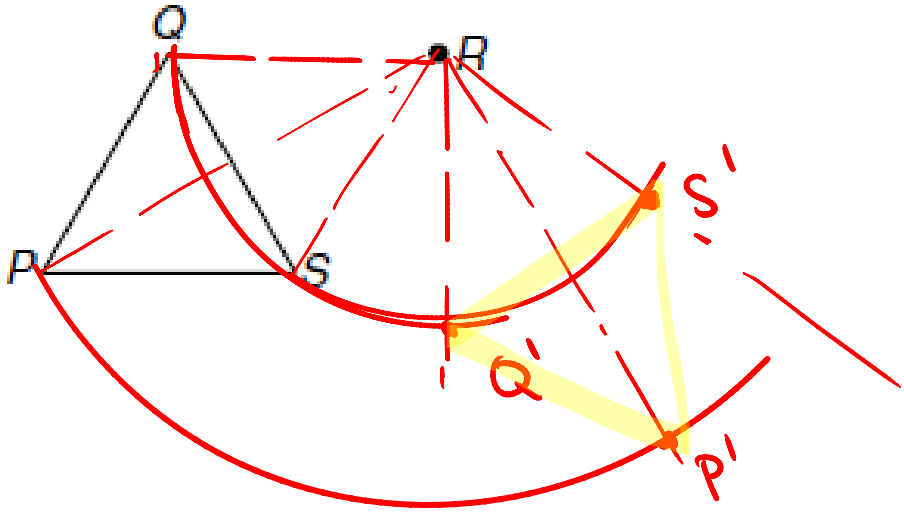


A′ is the image of *A* after a 120° rotation about point *C*.

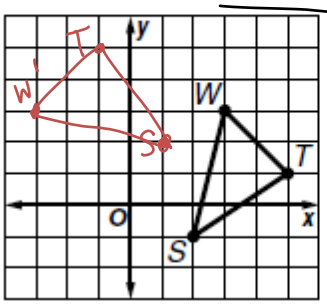
Steps for Rotating a Figure:

1. Draw a line from pt. you want to rotate to center
2. Then using the line you just created, find the ∠ (degrees) Draw that line through center. (Did you create an angle?)
3. Use the compass to move your pt. to the line you just created.

90° counterclockwise



$\triangle STW$ with vertices $S(2, -1)$, $T(5, 1)$, and $W(3, 3)$ counterclockwise 90°



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

$S(2, -1) \rightarrow S'(1, 2)$

$T(5, 1) \rightarrow T'(-1, 5)$

$W(3, 3) \rightarrow W'(-3, 3)$