Date: 11/17/20

Lesson 4.3 - Rotations in the Coordinate Plane

Learning Intent (Target): *Today I will* be able to graph polygons in the coordinate plane using transformations.

Success Criteria: *I'll know I'll have it when* I can accuratley graph combinations of transformations, including rotations in the coordinate plane.

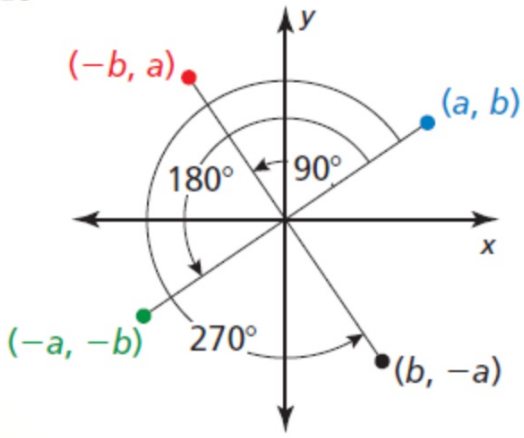
Accountable Team Task: *Therefore, I can* practice using interactive flip charts for notes & invstigations using gizmos to graph transformations including rotations.

Core Concept

Coordinate Rules for Rotations about the Origin

When a point (a, b) is rotated counterclockwise about the origin, the following are true.

- For a rotation of 90°, $(a, b) \rightarrow (-b, a)$.
- For a rotation of 180°, $(a, b) \rightarrow (-a, -b)$.
- For a rotation of 270°, $(a, b) \rightarrow (b, -a)$.



*Rotations are rigid motion

*Always Counter-Clockwise - unless stated

TYPE OF ROTATION	Point on the pre-image	Point on the image (After rotation)
Rotation of 90^o (clock wise)	(x , y)	(y , - x)
Rotation of 90^o (counter clock wise)	(x , y)	(- y , x)
Rotation of 180^o (clock wise & counter clock wise)	(x , y)	(- x , - y)
Rotation of 270^o (clock wise)	(x , y)	(- y , x)
Rotation of 270^o (counter clock wise)	(x , y)	(y , - x)