GRAPHIC ORGANIZER · SEQUENCES OF RIGID MOTIONS

Rotations: Turn It

Rotations on and off the coordinate plane

Name _____

Period _____

Date _____

Essential question: How can you turn a figure about a point and know exactly where it lands, without tracing it?

Turn about the origin, counterclockwise

The center

The one point that does not move. Every other point travels on a circle around it.

A point and its image are the same distance from the center.

Same distance from O

The angle

How far to turn. Counterclockwise is the positive direction.

The angle from P to the center to P′ equals the angle of rotation.

Same turn for every point

What stays the same

Fill in each blank as we find it in class.

- ☐ 90° clockwise lands in the same place as _____ counterclockwise.
- ☐ A 180° turn lands in the same place in _____ direction.
- ☐ The image is _____ to the pre-image and its orientation _____.

Toolkit

Fill in each blank. Keep this page out while you work.

Turn (counterclockwise)	Coordinate rule	Try it: P(3, −2) goes to
90°	(x, y) → (_____, _____)	P′_____
180°	(x, y) → (_____, _____)	P′_____
270°	(x, y) → (_____, _____)	P′_____
360°	(x, y) → (_____, _____)	P′_____
90° clockwise	same as _____ counterclockwise	P′_____

Say it in one sentence: A rotation is a rigid motion. You need two things to describe it: the _____ and the _____.