Rotations: Guided Notes

# Vocabulary

* **\_\_\_\_\_\_\_\_\_\_\_\_\_**: a type of transformation where a preimage is spun by a certain angle measure around a fixed point that is the center of rotation.
* **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**: the number of degrees by which the preimage is rotated.

|  |  |  |  |
| --- | --- | --- | --- |
|  | * **Clockwise (CW):** the direction in which the hands on a clock move |  | * **counterclockwise (CCW):** the opposite direction in which the hands on a clock move |

*Assume rotations to be counterclockwise unless stated otherwise.*

Is a rotation an example of rigid motion? Write your answer below.

# Special Rotations: Algebraic Rules

Fill in the blanks below.

| Diagram, shape, engineering drawing  Description automatically generated | Rotate about the origin … | Algebraic Rule |
| --- | --- | --- |
| … 90° CCW | \_\_\_\_\_\_ |
| … 180° CCW | \_\_\_\_\_\_ |
| … 270° CCW | \_\_\_\_\_\_ |

* Rotating a figure 90° CCW is the same as rotating that figure \_\_\_\_ CW.
* Rotating a figure 180° CCW is the same as rotating that figure \_\_\_\_ CW.
* Rotating a figure 90° CW is the same as rotating that figure \_\_\_\_ CCW.

# Applying Algebraic Rules

**1)** On the table below, draw the rotated image on the graph based on the provided preimage. Then, write a verbal description of the transformation.

| Graph | Verbal Description | Algebraic Rule |
| --- | --- | --- |
|  |  |  |

# Other Rotations

**2)** What if we rotate a figure around a point that is not the origin? Rotate the following preimage 270°   
about the point **.

**3)** How should we transform a preimage that is not on a coordinate plane? Rotate the primage below 120° about the given center of rotation, *R*. Draw the rotated image and mark its vertices.

