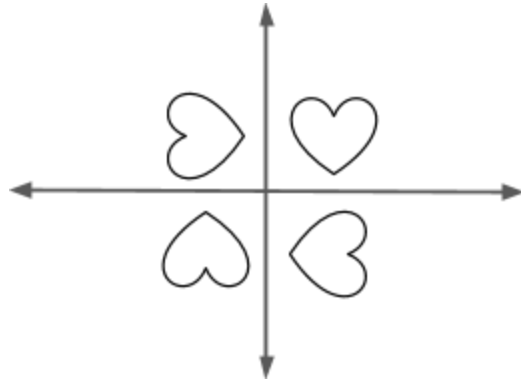


# Rotations

A \_\_\_\_\_ is a transformation that is \_\_\_\_\_ about the origin.

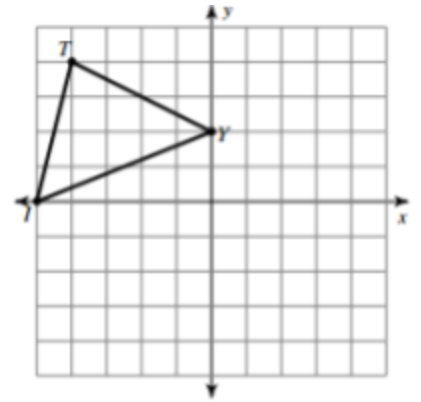


## 90° clockwise or 270° counter-clockwise

Rule

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

Pre-Image	Image

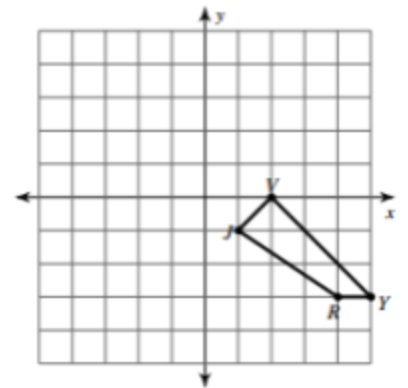


## 180° rotation

Rule

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

Pre-Image	Image



## 270° clockwise or 90° counter-clockwise

Rule

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

Pre-Image	Image

