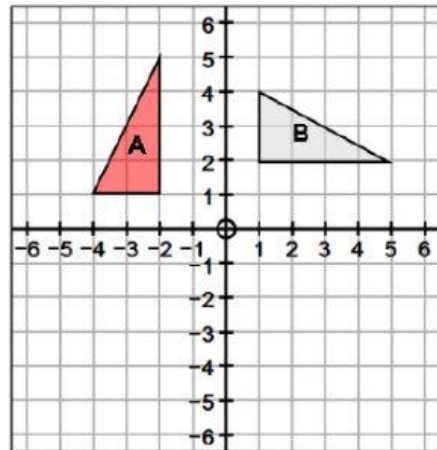


Rotations

A **rotation** _____ a figure about a center of rotation by a certain _____ of degrees

The original figure and the translated figure are _____



**R
U
L
E
S**

90° Clockwise

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

"Rotate 90° clockwise"

90° Counter-clockwise

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

"Rotate 90° counter-clockwise"

270° Clockwise

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

"Rotate 270° clockwise"

270° Counter-clockwise

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

"Rotate 270° counter-clockwise"

180°

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

"Rotate 180°"

360°

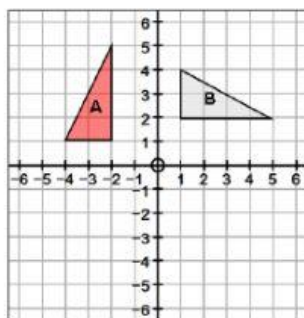
$$(x, y) \longrightarrow (x, y)$$

"Rotate 360°"

EXAMPLES:

Describe a rotation that maps

$\triangle A$ to $\triangle B$



Find the coordinates of a figure rotated **90° counter-clockwise**

$$A(6, 7) \longrightarrow \underline{\hspace{2cm}}$$

$$B(-3, -4) \longrightarrow \underline{\hspace{2cm}}$$

$$C(8, -2) \longrightarrow \underline{\hspace{2cm}}$$

Find the coordinates of a figure rotated **180°**

$$D(-9, -1) \longrightarrow \underline{\hspace{2cm}}$$

$$E(0, 6) \longrightarrow \underline{\hspace{2cm}}$$

$$F(10, 3) \longrightarrow \underline{\hspace{2cm}}$$