TSW understand concept of rotation
*drawing images after rotation
***find coordinates of points after rotation**

Example 12 **Draw images after rotations about the origin.**

Triangle *ABC* is shown on the coordinate plane.
Draw and label the image *A′B′C′* under each rotation.
Then complete the table of coordinates.

A triangular flag *ABC* is connected to a
rotating shaft. The shaft is positioned at
the origin, *O*.
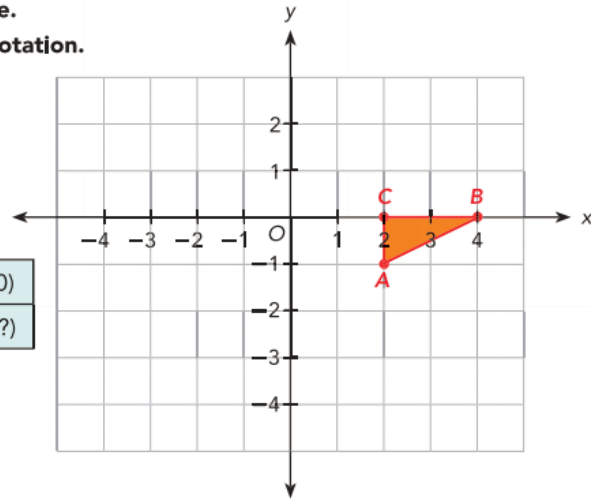
Original Point	A (2, −1)	B (4, 0)	C (2, 0)
Is Mapped Onto	A′ (?, ?)	B′ (?, ?)	C′ (?, ?)

a) 90° clockwise about the origin, *O*

b) 180° about the origin, *O*

Original Point	A (2, −1)	B (4, 0)	C (2, 0)
Is Mapped Onto	A″ (?, ?)	B″ (?, ?)	C″ (?, ?)

Guided Practice

Copy and complete on graph paper.

4 A rotation of △ABC 90° clockwise about the origin, O, produces the image △A'B'C'.
Draw and label the image △A'B'C'.
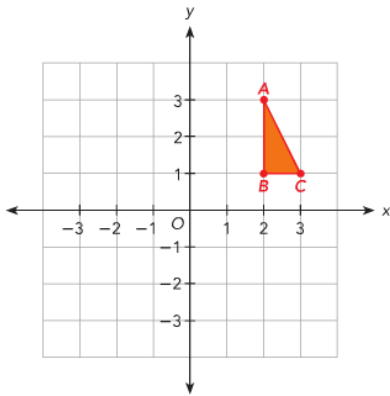
Original Point	Is Mapped Onto
A (2, 3)	A' (_?_, _?_)
B (2, 1)	B' (_?_, _?_)
C (3, 1)	C' (_?_, _?_)

△ABC is read as "triangle ABC."

Example 13 **Find the coordinates of points after rotations.**

A rod is rotating counterclockwise about the origin, O. A square flag is connected to the rotating rod. The position of the flag is at A (2, 2), B (3, 3), C (4, 2), and D (3, 1) as shown. Find the coordinates of the image under each angle of rotation.
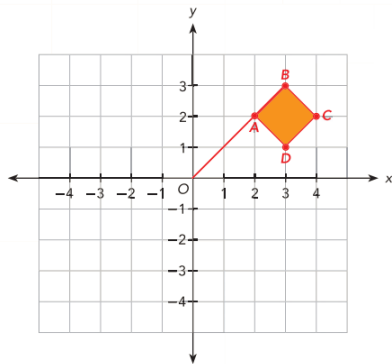
a) 180° about the origin, O

b) 270° counterclockwise about the origin, O