

NAME _____

Module 11 Transformation of Shapes

Lesson 2 Rotations

Lesson Objectives

- Perform rotations of two-dimensional figures using a variety of methods.
- Draw and describe the results of rotations about the origin (90° and 180°).

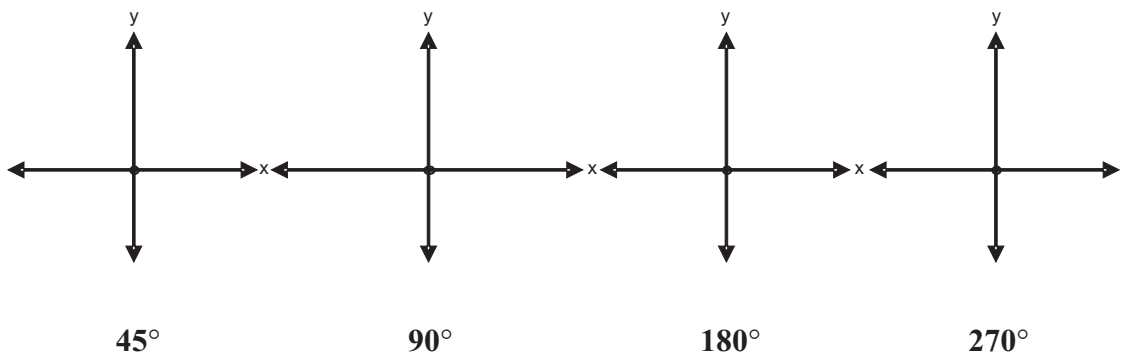
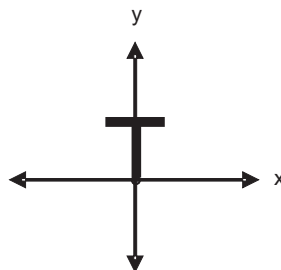
Subtopic 1 Rotations of Two-Dimensional Figures

Rotation

- A transformation in which a figure is turned through a _____ about a _____
- The fixed point is called the _____.
- The given angle is called the _____.

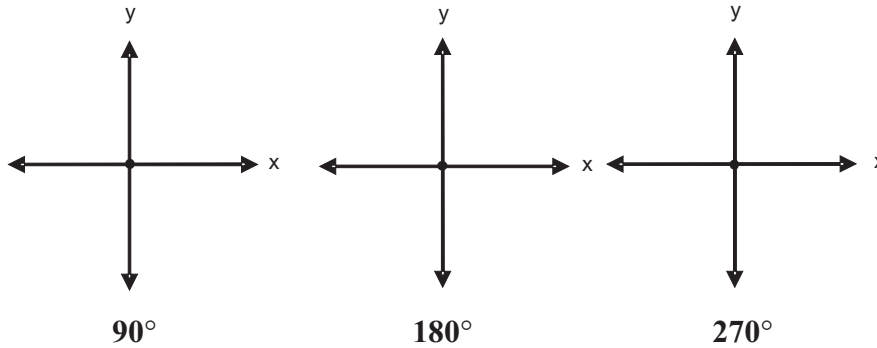
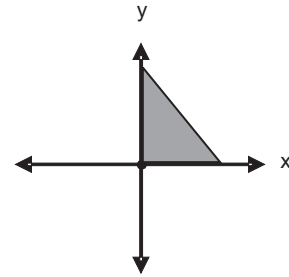
Unless told otherwise, rotate in a _____ direction.

- 1** Rotate the figure 45° , 90° , 180° , and 270° with the origin as the center of rotation.





Rotate the figure 90° , 180° , and 270° with the origin as the center of rotation.



Subtopic 2 Rotations Using Ordered Pairs

To rotate a point 90° counterclockwise about the origin:

- Take the opposite of the _____.
- _____ the x - and y -coordinates.
- $(a, b) \rightarrow (-b, a)$

To rotate a point _____ about the origin:

- Take the opposite of _____.
- $(a, b) \rightarrow (-b, -a)$

To rotate a point _____ counterclockwise about the origin:

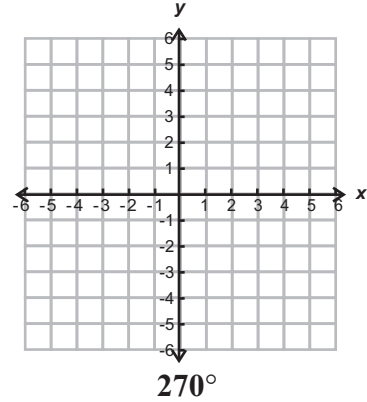
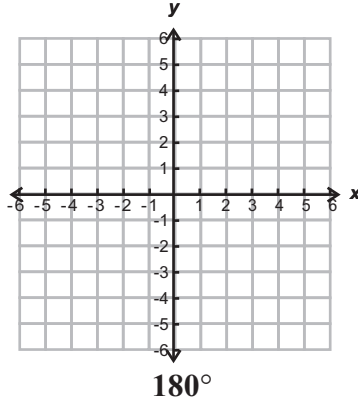
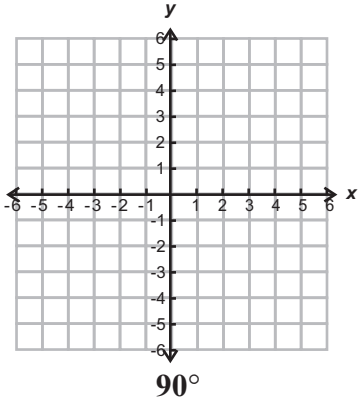
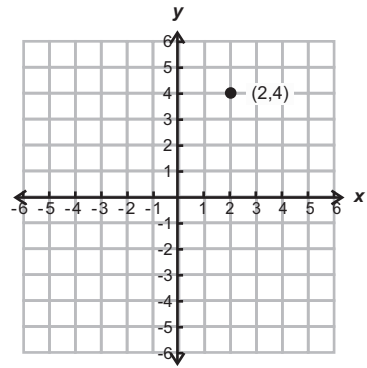
- Take the opposite of the _____.
- Exchange the x - and y -coordinates.
- $(a, b) \rightarrow (b, -a)$

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3

Rotate the point (2, 4) around the origin 90° , 180° , and 270° .



4

Rotate the parallelogram around the origin 90° and 180° .

