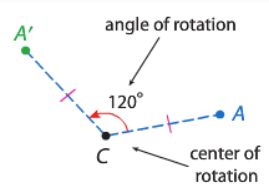
9 - 3

Rotation

Rotation

A "turn" around a fixed point(typically called the center of rotation).



A′ is the image of A after a 120° rotation about point C.

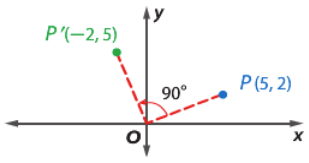
Rotations in the Coordinate Plane

90° Rotation

To rotate a point 90° counterclockwise about the origin, multiply the *y*-coordinate by −1 and then interchange the *x*- and *y*-coordinates.

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

Example

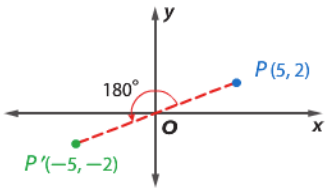


180° Rotation

To rotate a point 180° counterclockwise about the origin, multiply the *x*- and *y*-coordinates by −1.

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

Example

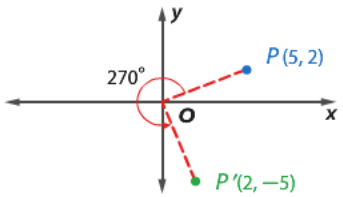


270° Rotation

To rotate a point 270° counterclockwise about the origin, multiply the x-coordinate by -1 and then interchange the x- and y-coordinates.

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

Example



Triangle JKL is shown at the right. What is the image of point J after a rotation 270° counterclockwise about the origin?