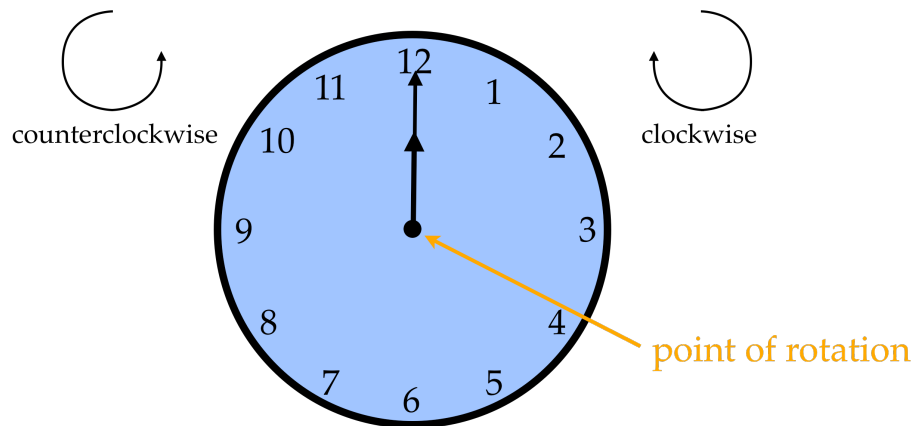


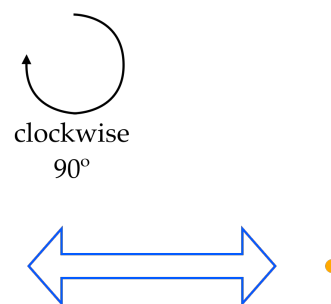
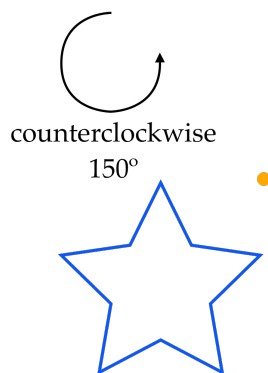
Geometric Rotation

all points of a figure are **rotated** around a particular **point of rotation**.



Geometric Rotation

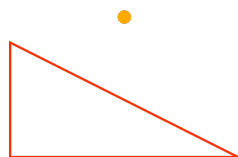
all points of a figure are **rotated** around a particular **point of rotation**.



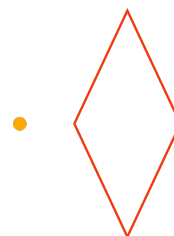
Geometric Rotation

all points of a figure are **rotated** around a particular **point of rotation**.

120° Counterclockwise



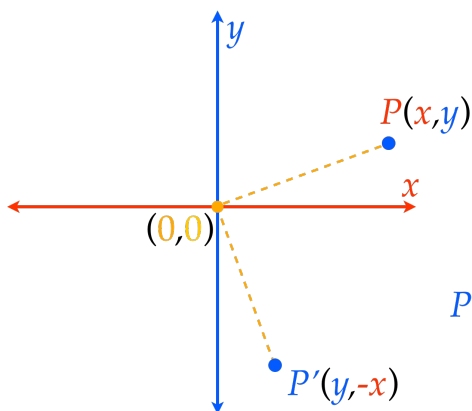
90° clockwise



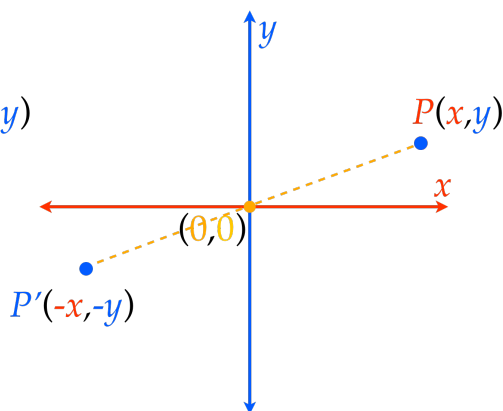
Geometric Rotation

within the coordinate plane

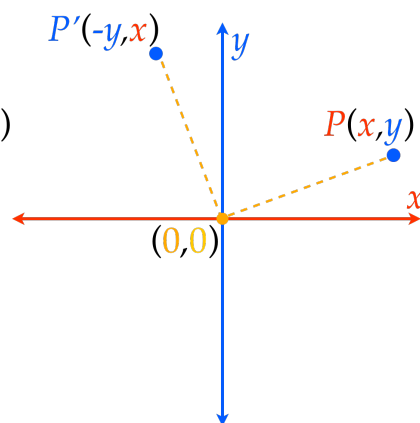
90° clockwise
270° counterclockwise



180° clockwise
180° counterclockwise



270° clockwise
90° counterclockwise



Geometric Rotation

within the coordinate plane

90° counterclockwise
270° clockwise
 $P(x,y) \rightarrow P'(-y,x)$

180° counterclockwise
180° clockwise
 $P(x,y) \rightarrow P'(-x,-y)$

270° counterclockwise
90° clockwise
 $P(x,y) \rightarrow P'(y,-x)$

$(4,6)$

90° counterclockwise
270° clockwise
 $P(4,6) \rightarrow$

180° counterclockwise
180° clockwise
 $P(4,6) \rightarrow$

270° counterclockwise
90° clockwise
 $P(4,6) \rightarrow$