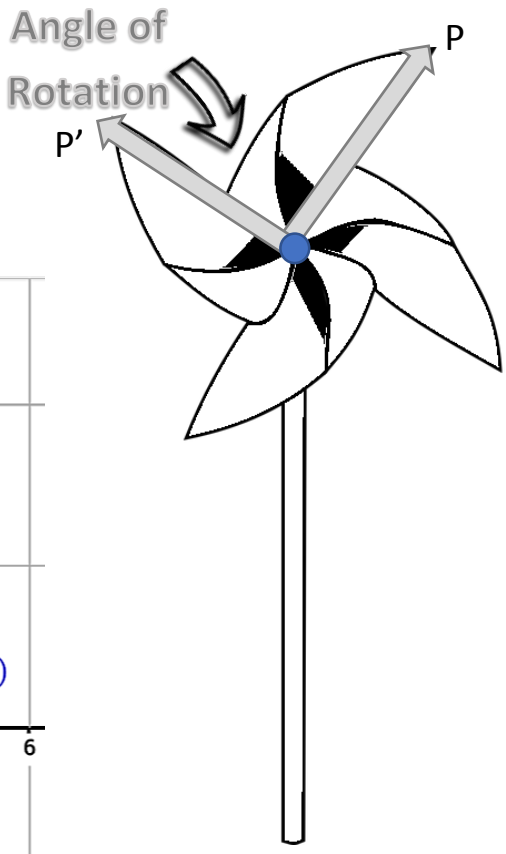
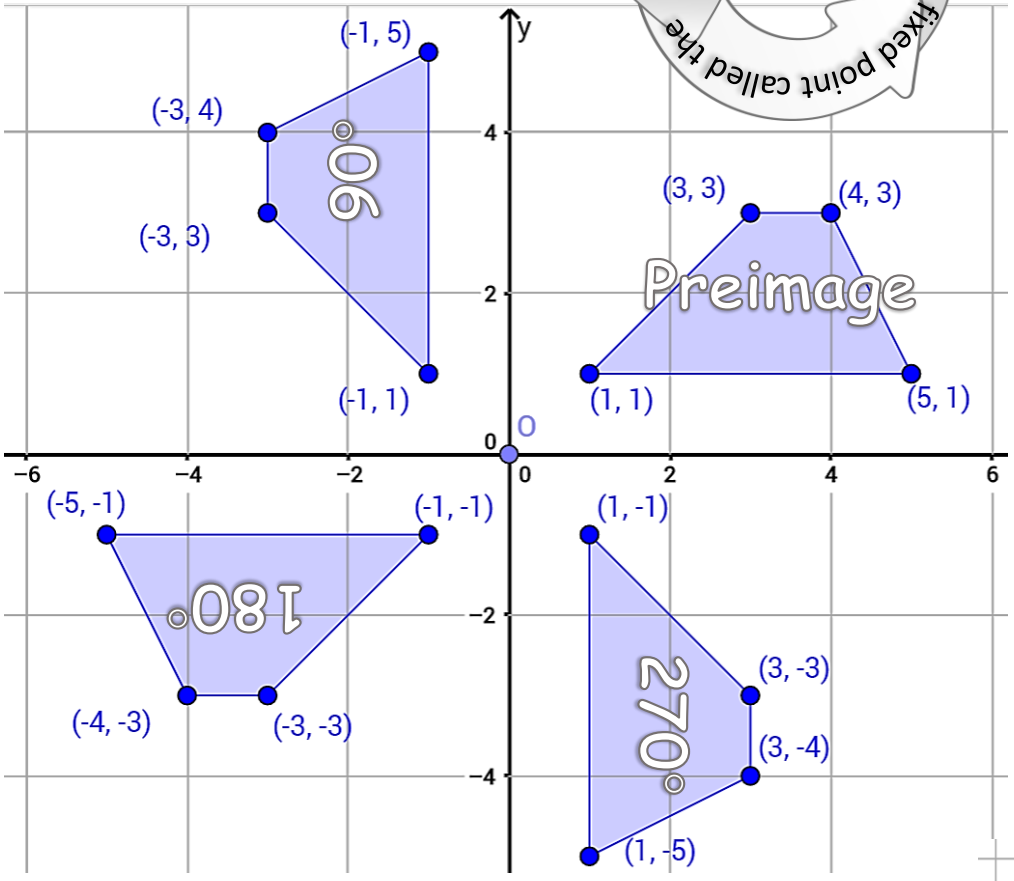
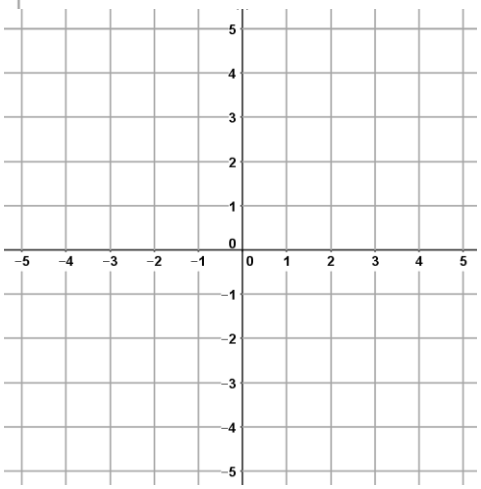
Rotations

A **rotation** turns a figure about a fixed point called the **center of rotation.**





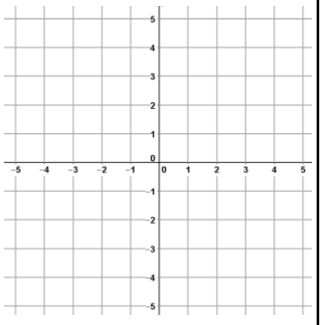
Graph △ ABC with vertices A(3, 1), B(3, 4), and C(1, 1) and its image after a 180° rotation about the origin.



When a point (a, b) is rotated counterclockwise about the origin, the following are true.

- For a rotation of 90°, (a, b) → ( ).
- For a rotation of 180°, (a, b) → ( ).
- For a rotation of 270°, (a, b) → ( ).

Graph $\overline{RS}$ with endpoints R(1, −3) and S(2, −5) and its image after the composition.
Rotation: 180° about the origin
Reflection: in the y-axis.



A figure in the plane **has rotational symmetry** when the figure can be mapped onto itself by a rotation of **180° or less** about the center of the figure.