

Honors Geometry

Rigid Transformations

DATE: 10/24

Target 2B. Perform rigid transformations: translation, reflection, and rotation

Rotations

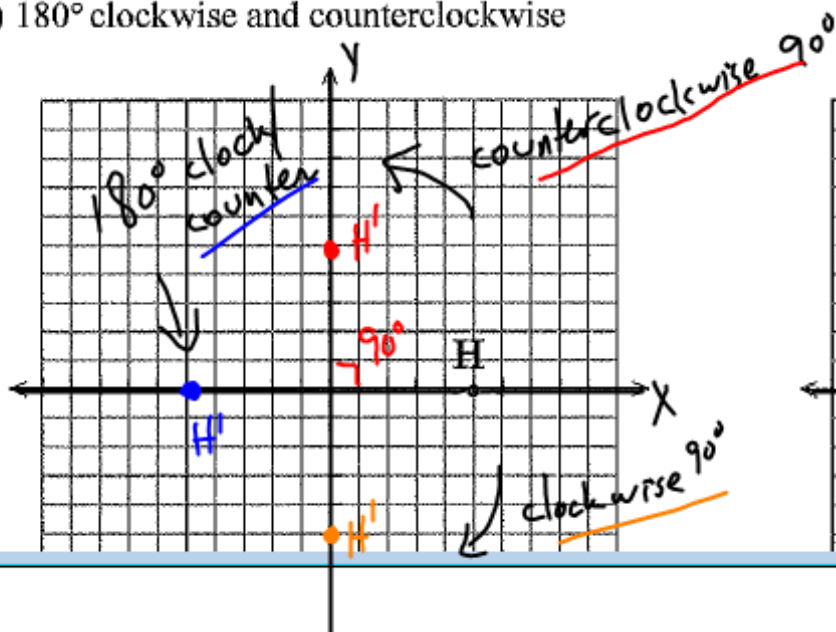
A rotation occurs when you turn a point or figure around a center point. A rotation is given in degrees. A rotation of 90° is a quarter of a turn, 180° is a half or a turn, 270° is three-fourths of a turn, 360° is a full turn. A direction is also given, either clockwise (to the right) or counterclockwise (to the left).

Remember

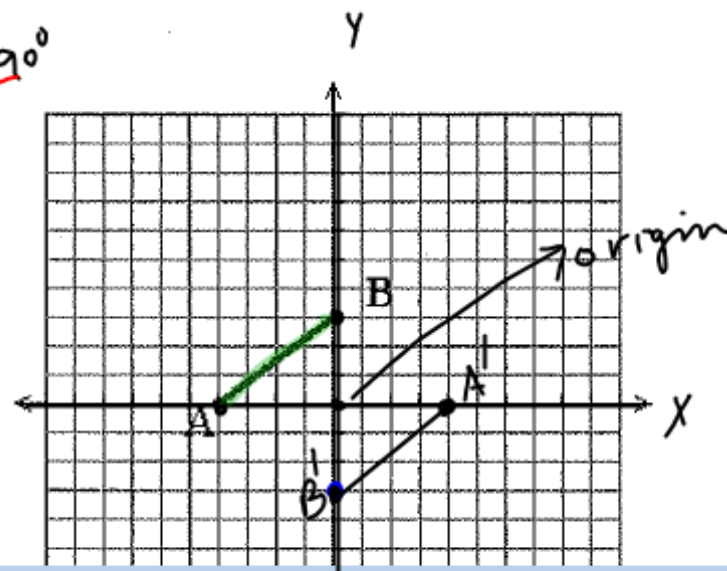
A rotation is type of rigid transformation. Therefore, a rotation preserves the distance between every pair of points.

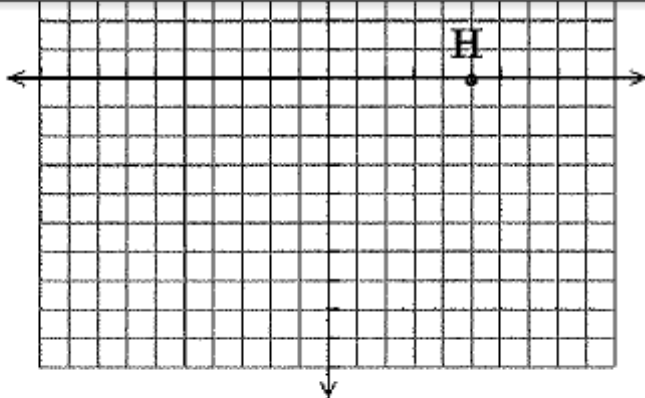
Example 1: Rotate point H around the origin:

- 1) 90° clockwise and counterclockwise
- 2) 180° clockwise and counterclockwise

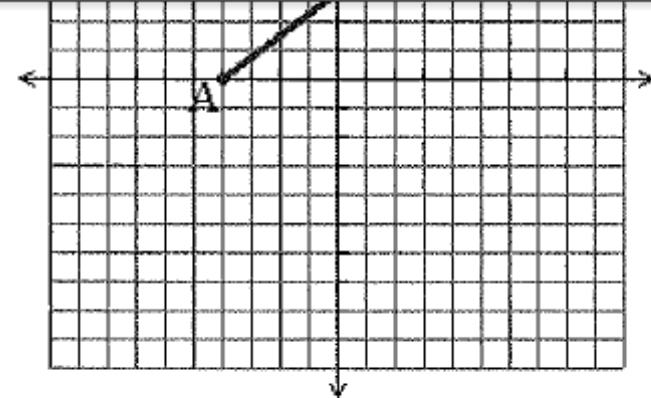
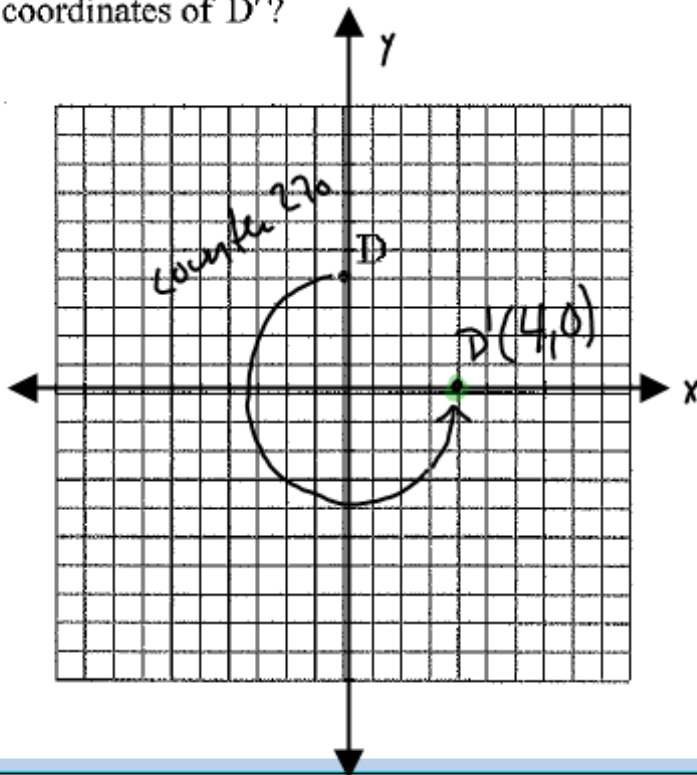


Example 2: Rotate \overline{AB} 180° clockwise around the origin.

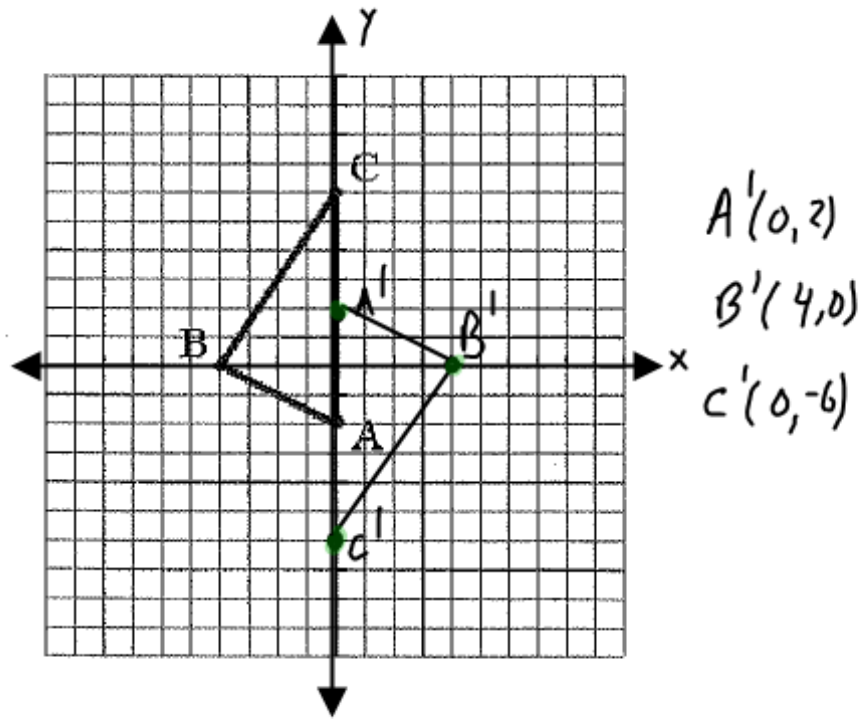




Example 3: Rotate point D 270° counter-clockwise around the origin. What are the coordinates of D' ?

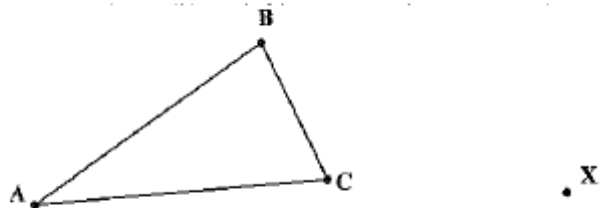


Example 4: Rotate $\triangle ABC$ 180° clockwise around the origin. What are the coordinates of A' , B' , C' ?



Example 5: Use patty paper for each rotation.

a) Rotate $\triangle ABC$ 90° clockwise around point x .



Please see me if you need help.
-Mr. D.

b) Rotate $ABCD$ 180° counterclockwise around point P .

