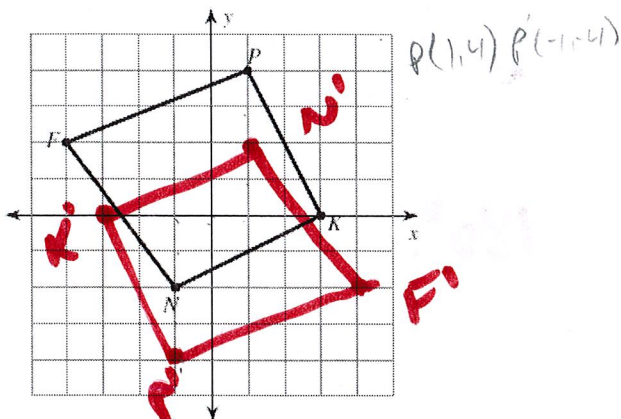


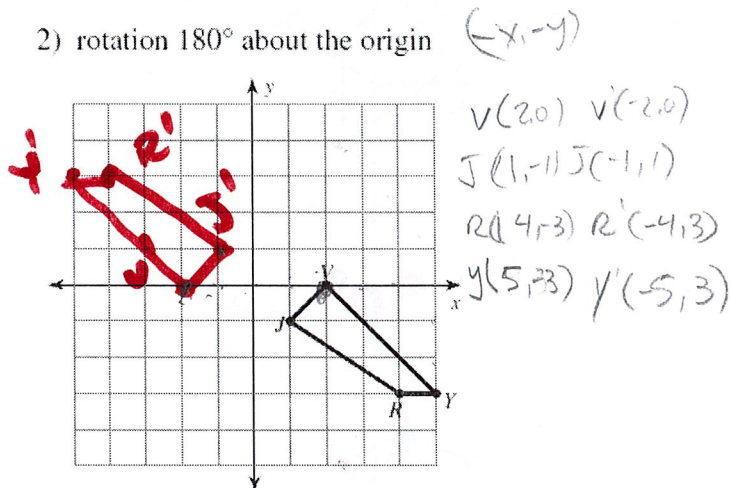
HW- Rotations about the origin

Graph the image of the figure using the transformation given.

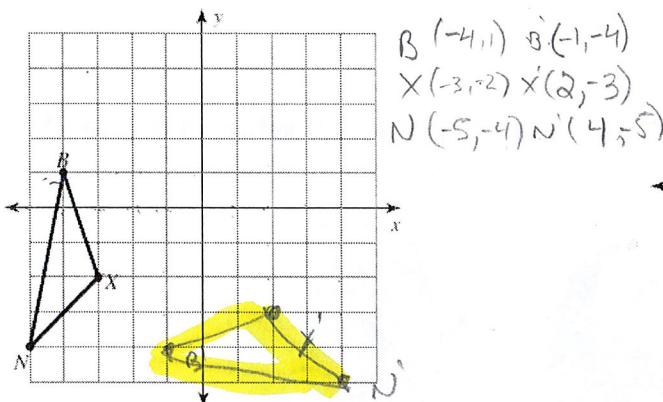
1) rotation 180° about the origin



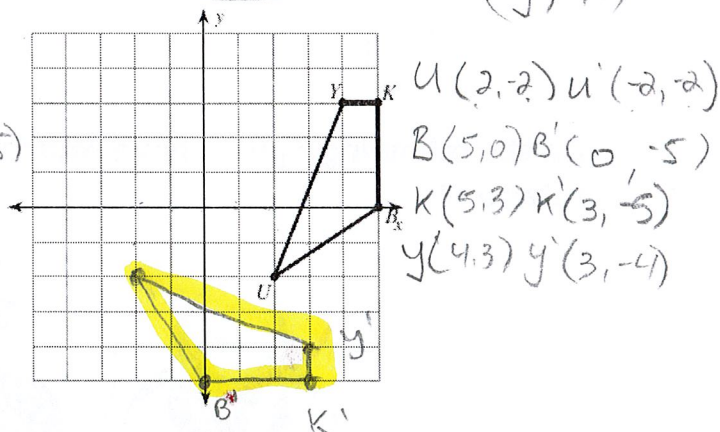
2) rotation 180° about the origin



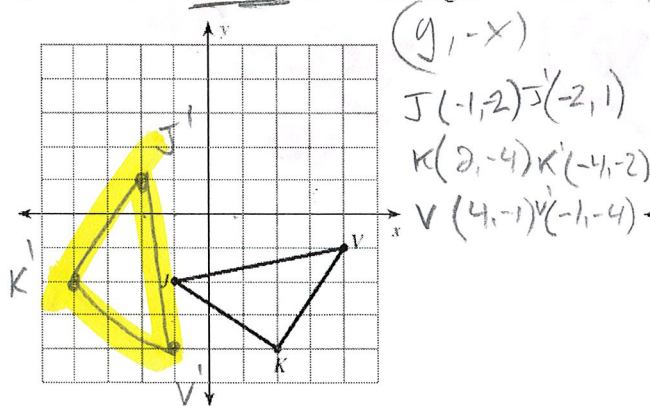
3) rotation 90° counterclockwise about the origin



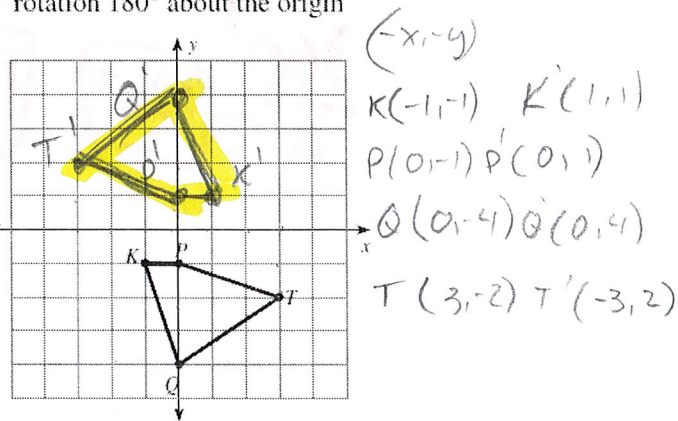
4) rotation 90° clockwise about the origin



5) rotation 90° clockwise about the origin

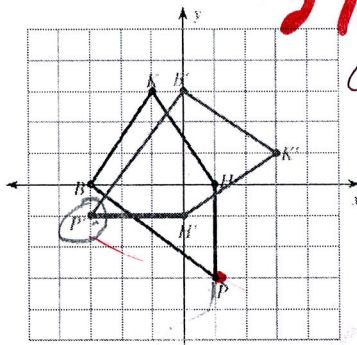


6) rotation 180° about the origin



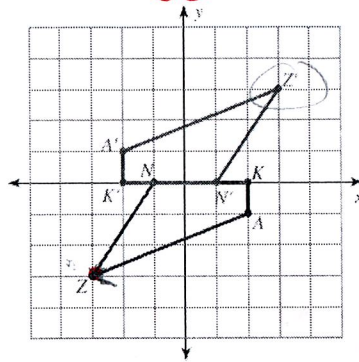
Write a rule to describe each transformation.

7)

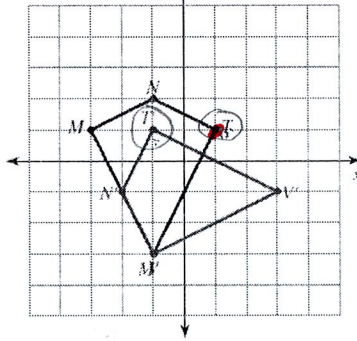


270° ccw
90 cw

180°

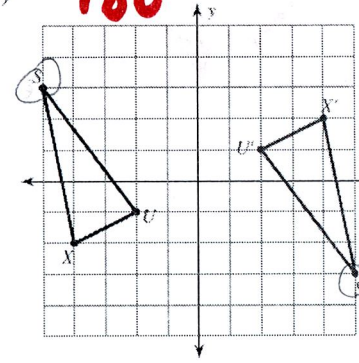


9)



90° ccw

10)

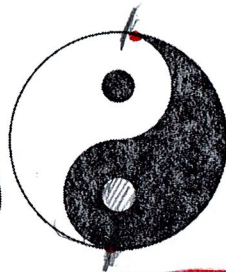


180°

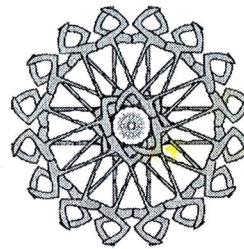
Do the following figures have rotational symmetry? If so, what is angle of rotation?



$$\frac{360}{3} = 120^\circ$$



$$180^\circ$$



$$\frac{360}{16} = 22.5^\circ$$