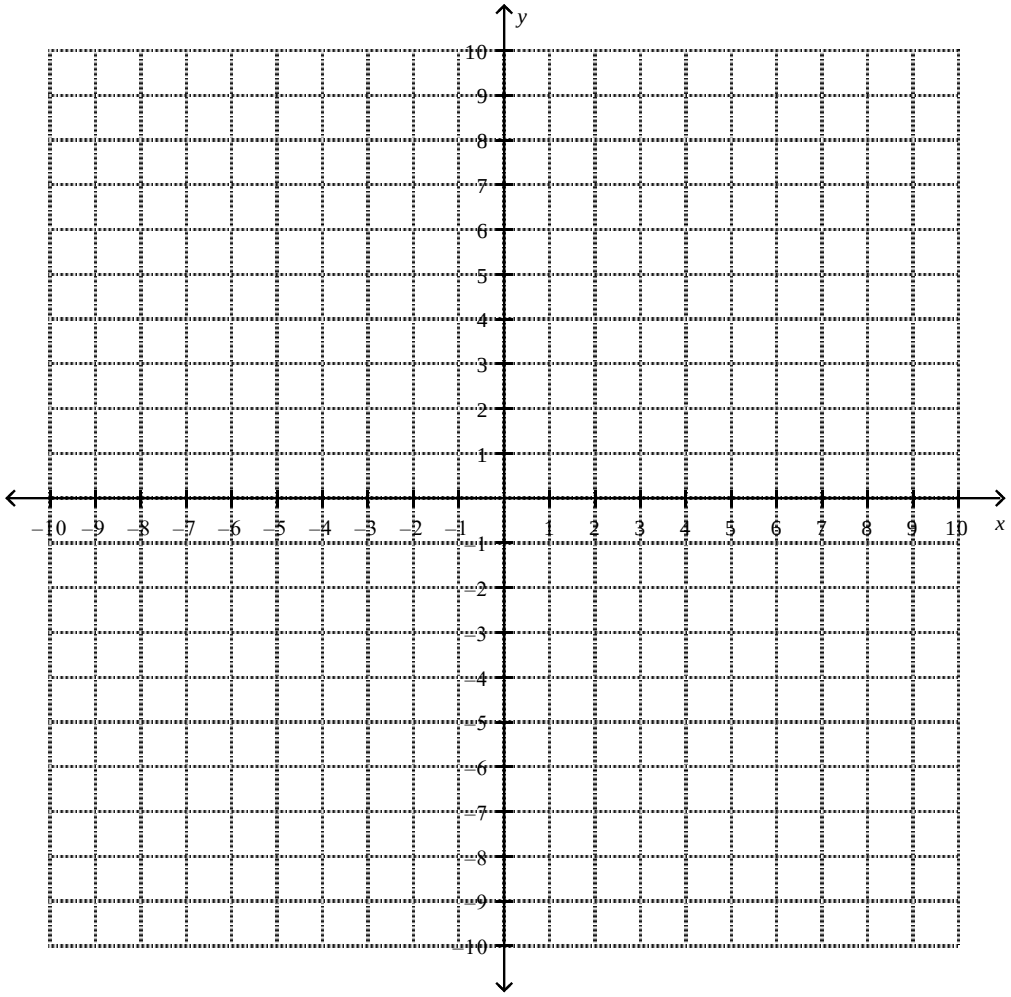
Name: _____ **Class:** _____

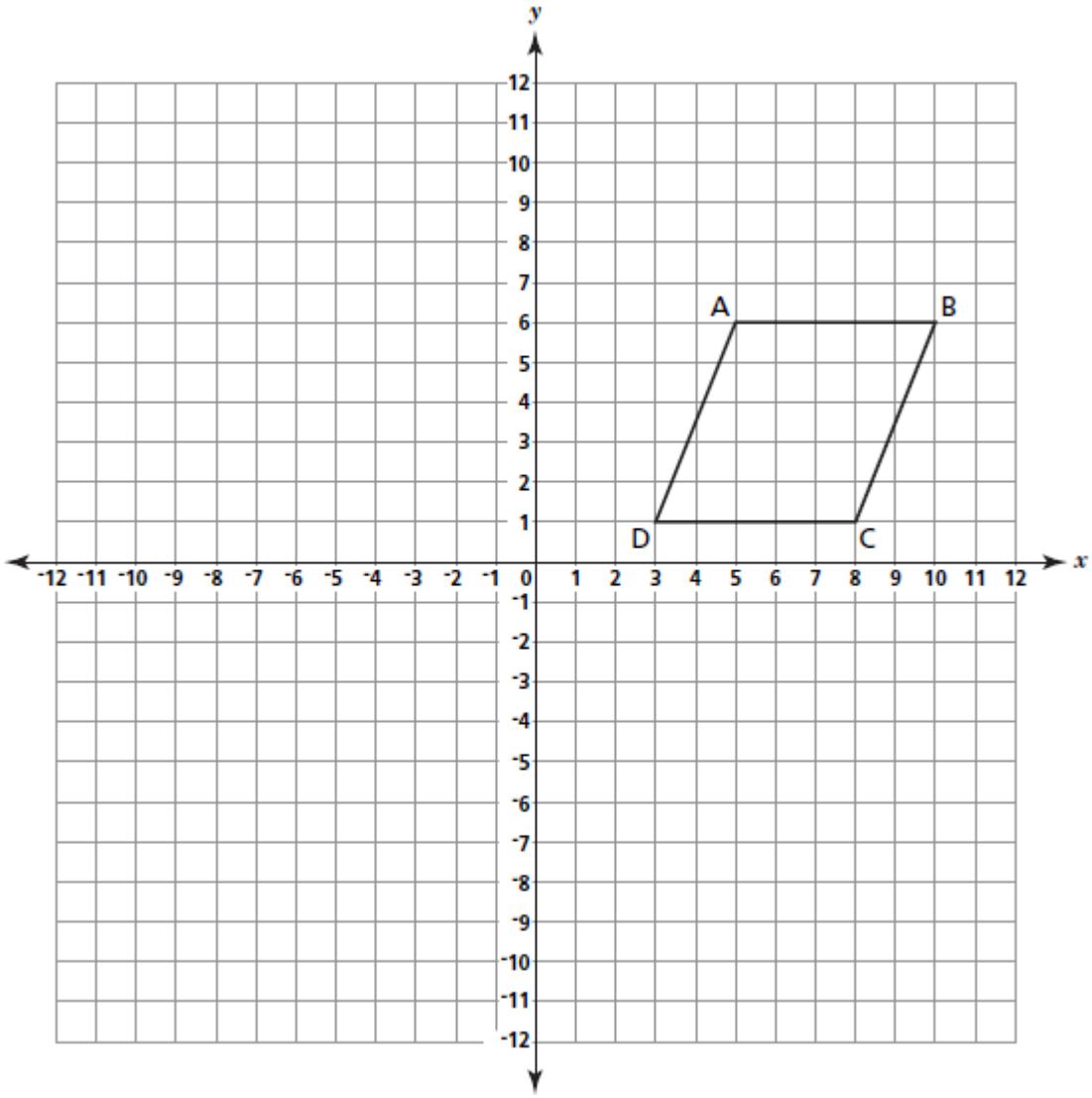
Unit 1 – Rotations Practice **Date:** _____

1. **a)** Graph Triangle RST with vertices R$(2, 3)$, S $(5, 4)$, and T$(4, 8)$.

b) Using the rule for a rotation of 90° counterclockwise, graph Triangle $R'S'T'$ on the graph below and write the new coordinates.



2. Quadrilateral *ABCD* is plotted on the grid below.



Part A

On the graph, draw the image of quadrilateral *ABCD* after a counterclockwise rotation of 180° about the origin. Label the image $A'B'C'D'$.

Part B

On the lines below, explain how the coordinates of *A* changed to the coordinates of A'.

_____

_____

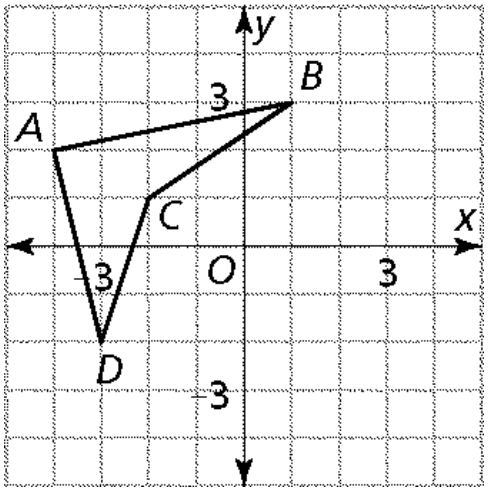
_____

3. Point A (3, 6) is rotated 270° counterclockwise about the origin, what is the coordinate of A' ? *Circle the best answer.*

(a) $(-6, 3)$ **(c)** $(6, -3)$

(b) $(3, 6)$ **(d)** $(-3, -6)$

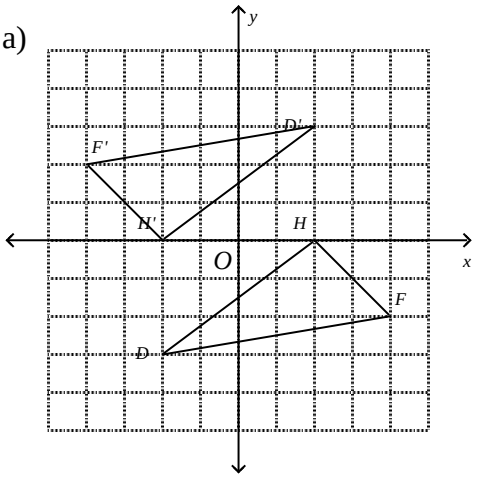
4. Draw the final image created by rotating polygon *ABCD* 90° counterclockwise about the origin and then reflecting the image in the *x*-axis.



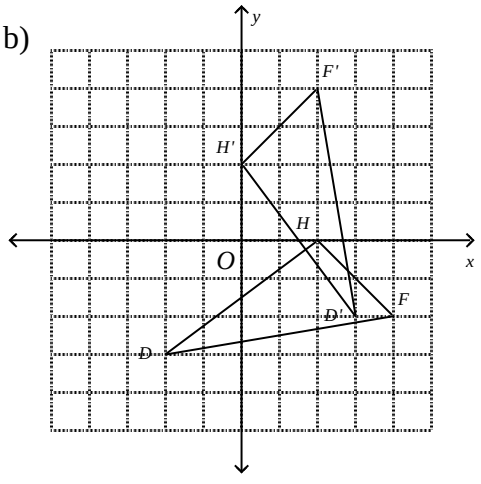
Is the resulting image similar or congruent? How do we know?

5. Determine the transformation that produced the following images:

a)

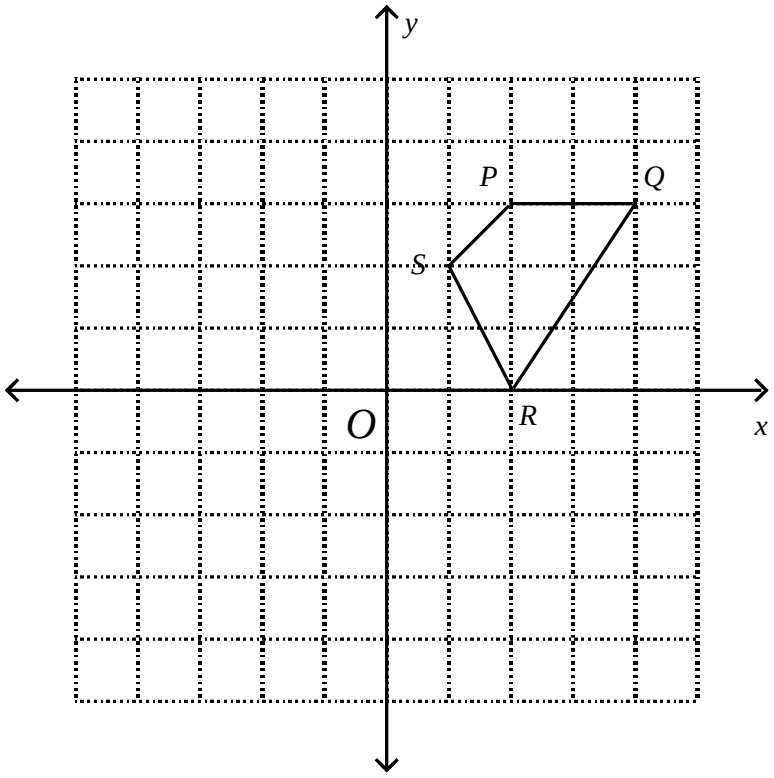


b)



6. Quadrilateral *PQRS* is plotted on the grid below.

On the graph, draw the image of polygon *PQRS* after a 90° clockwise rotation. Label the image *P'Q'R'S'*.



What will be the coordinates of point *Q''* after a dilation of polygon *P'Q'R'S'* using a scale factor of two?

Answer _____