

Name: _____

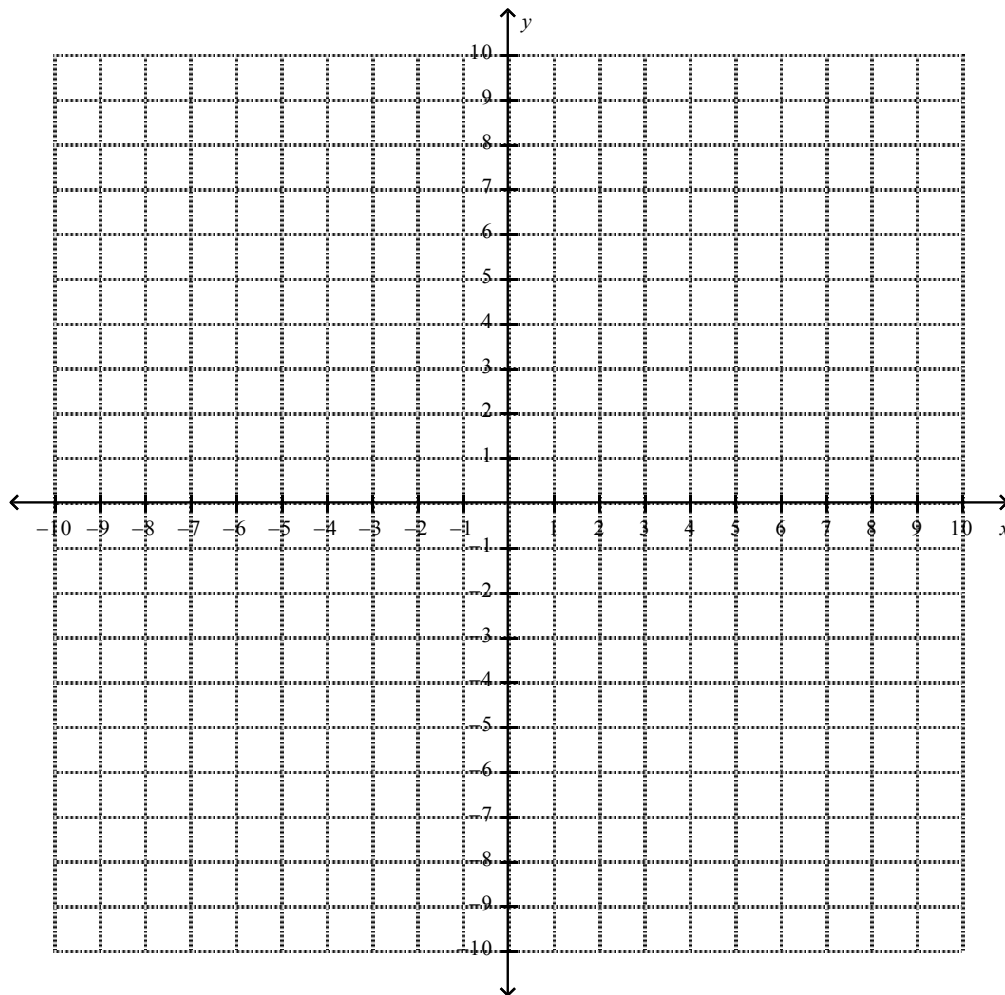
Class: _____

M8-U3: HW# 4 – Rotations

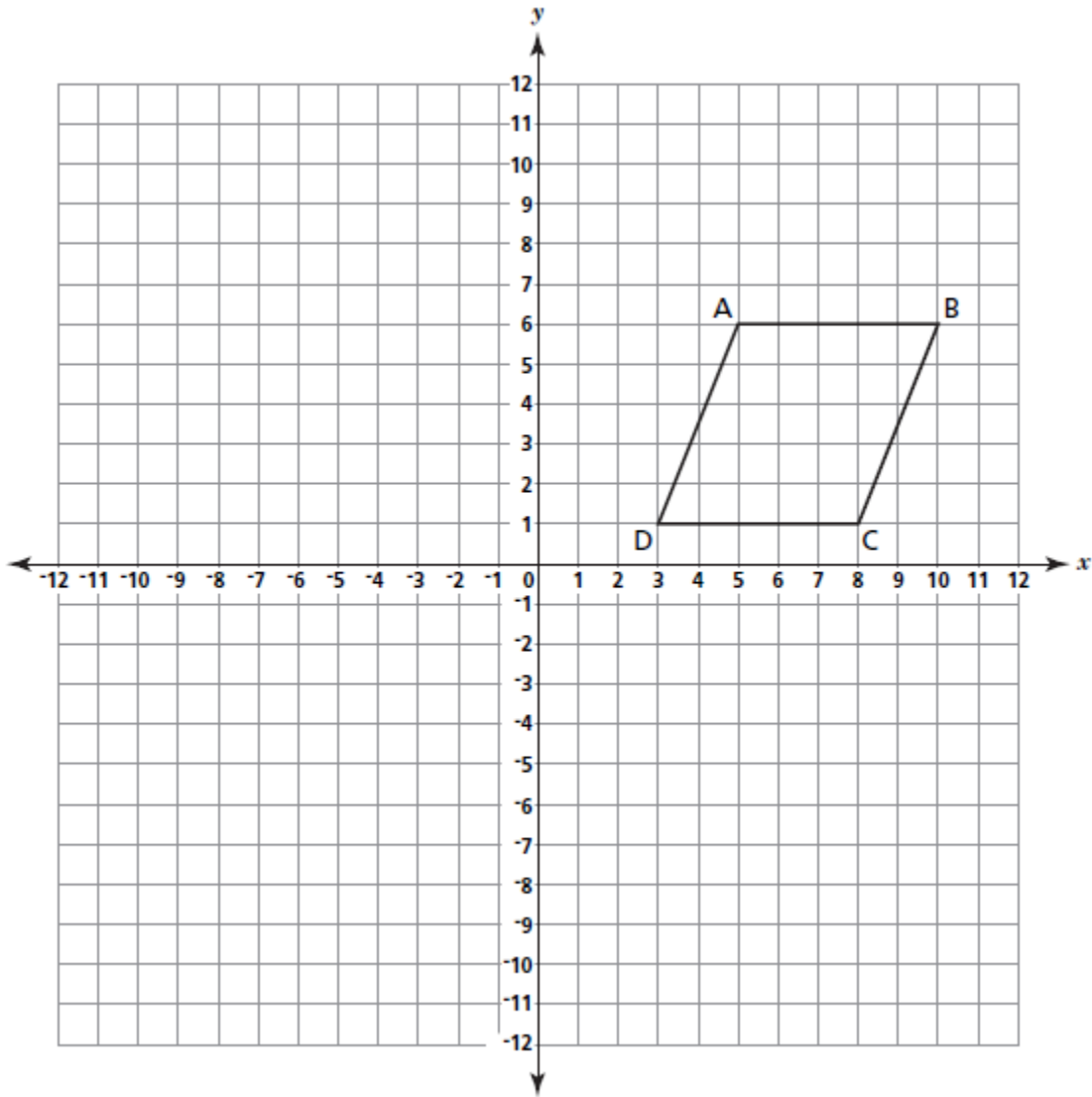
Date: _____

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.

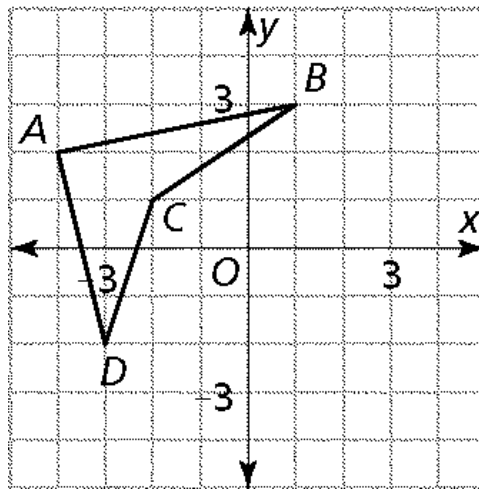
(a) $(-6, 3)$

(c) $(6, -3)$

(b) $(3, 6)$

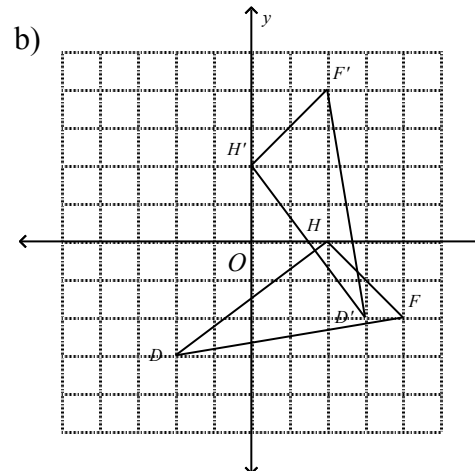
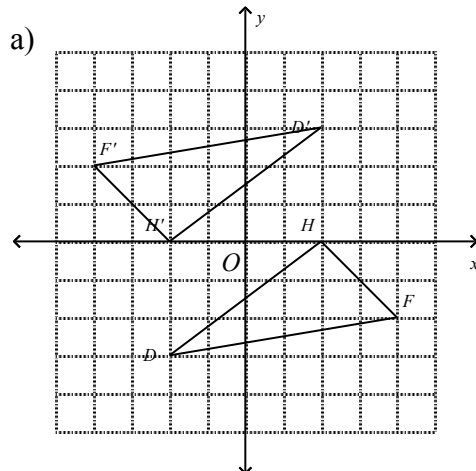
(d) $(-3, -6)$

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



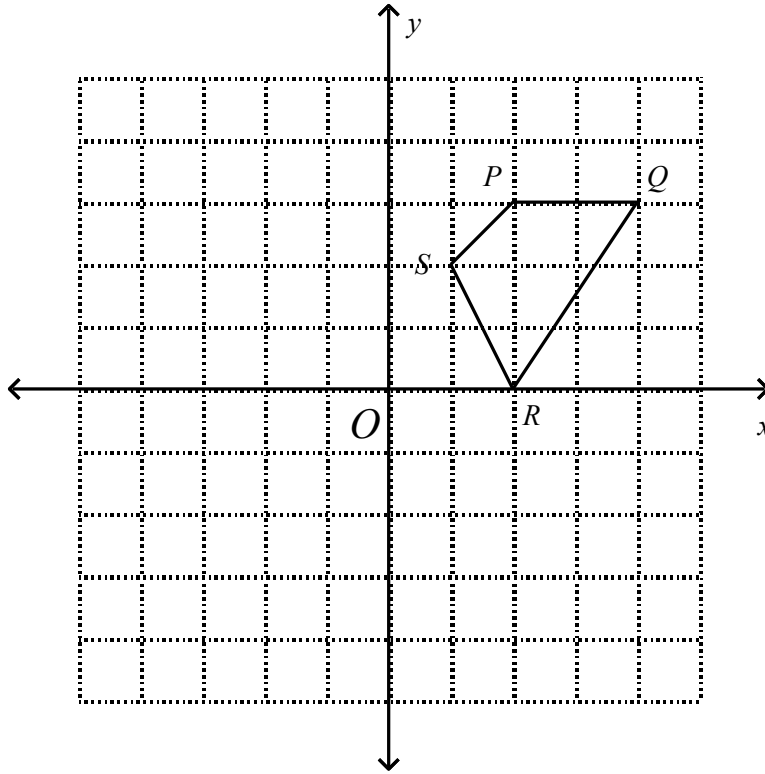
Is the resulting image similar or congruent? How do we know?

5. Determine the transformation that produced the following images:



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

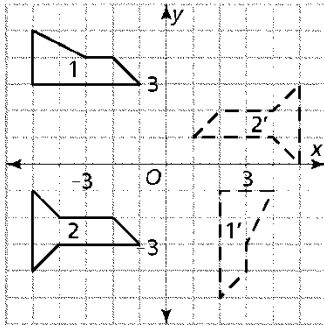
On the graph, draw the image of polygon $PQRS$ after a 90° clockwise rotation. Label the image $P'Q'R'S'$.



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

Answer _____

7. Describe how you could move shape 1 to exactly match shape 1' by using series of transformations?



Spiral:

8. The image of $(2, -1)$ after a translation of $(x, y) \rightarrow (x - 1, y + 3)$ is _____.
9. A dilation of $(x, y) \rightarrow (2x, 2y)$ will make the coordinates of the image _____ times larger than the original.
10. The only transformation that changes the size of the original figure is a _____.