**ROTATIONS**

**1.** **a)** Graph Triangle RST with vertices R, S and T

**b)** Using the rule for a rotation of 90° counterclockwise, graph Triangle  on the graph below and write the new coordinates.





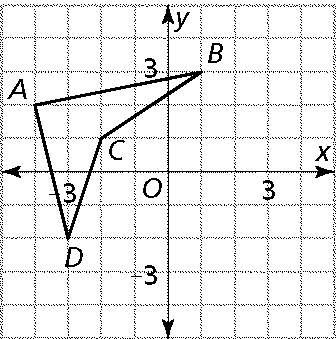
**2.** Quadrilateral *ABCD* is plotted on the grid below.

**Part A**

On the graph, draw the image of quadrilateral *ABCD* after a counterclockwise rotation of 180o about the origin. Label the image .

**Part B**

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

**3.** 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?

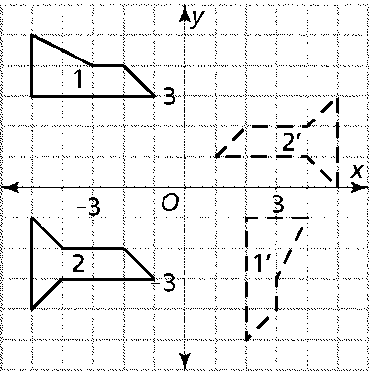
**4.** Determine the transformation that produced the following images:

 a) b)

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

* On the graph, draw the image of polygon *PQRS* after a 90o 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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_***



**6.** Describe how you could move shape 1 to exactly match shape 1’ by using series of transformations?

**SUMMARY:**

**7.** The image of  after a translation of  is \_\_\_\_\_\_\_\_\_\_.

**8.** The only transformation that changes the size of the original figure is a \_\_\_\_\_\_\_\_