Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_ Seat\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Answer each question completely, showing your work.**

1. The vertices of a triangle are *P*(3, 8), *Q*(–9, 5), and *R*(3,3). Name the vertices of the image reflected Over the *x*-axis. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Over the y – axis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Which of the following transformations is illustrated by the graph at the right?
2. The image of (-2, 6) after a dilation with respect to the origin is (-6, 18). What is the scale factor of the dilation?
3. Given the point (-4, 3), where will its image be after the translation (x, y) -> (x – 2, y + 4)?



1. Describe the following transformation from ABCD to A’B’C’D’ if D’(2,2) A’(2,-2), B’ (-2, -3) and C’ (-2,3)
2. Define bisect.
3. Define perpendicular lines.
4. Define regular polygon.
5. If the following transformations takes place on a polygon, describe the results: A. (x , y) -> (x, 4y)

 B. (x, y) -> (5x, y)

1. Describe the steps in constructing the perpendicular bisector of a segment. (You may use your text or an online resource)
2. If the center of a circle is at (-3, -5). After the transformation (2x+ 5, 2y – 7), where will the center be?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the center of the above dilation? 



1. Name the angle above in all possible ways. Can we name the angle <BAC? Why or why not?
2. Complete the steps to inscribe a square in a circle.
3. Draw a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Draw a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Find the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the diameter.
6. Connect the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the circle.

1. Suppose ABCD is transformed so that image of D is (-4, -1). Write a general rule that describes the transformation.
2. Describe the transformation that has taken place below:

 

1. What construction has taken place?
2. What is the center of dilation for the Transformation below?

 

1. For A – D, name each construction:

A.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**B.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**



C.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

D.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The construction that proceeds as follows:

1. A diameter of the circle is drawn.
2. A perpendicular bisector of the diameter is drawn using the method described in Perpendicular bisector of a segment. This is also a diameter of the circle.
3. The resulting four points on the circle are the vertices of the inscribed square.
4. Define a polygon inscribe in a circle.
5. Using the drawing below, if m<HGI = 64o and ray GM bisects <HGI, what is m<HGM?

