Due: 3/28/17 at 5:00PM

Instructions: Your answers to the following questions do not need to be lengthy or written in complete sentences, but should reflect preparation for our discussion about Chapter 8 at the beginning of class.

Questions:

1. What are the mathematical terms for slides, flips, and turns?

    translations, reflections, and rotations

2. What is the result of the composition of the translations $(x, y) \rightarrow (x + 4, y - 3)$ and $(x, y) \rightarrow (x - 4, y + 3)$? How would you describe the relationship between these two translations?

    The composition is $(x, y) \rightarrow (x, y)$. The result of the two translations one after the other is the original preimage. I would call these "opposite translations."

3. If a point on the preimage of a figure lies on the line of reflection, what do you know about its reflection image?

    The image will be the same point as the preimage.

4. If you draw a figure on paper and cut it out, how can test it for lines of symmetry?

    Fold the figure on a line. If the pieces of the figure on the two sides of the line coincide, the fold line is a line of symmetry.

5. If you draw a figure on paper and cut it out, how can test it for rotational symmetry?

    Make a copy of the figure on a second sheet of paper. Cut out one of the figures and place it on top of the other one. Rotate the figure you cut own and see which angles of rotation will result in the two figures coinciding.

6. If a figure is dilated with the origin as the center of dilation, what will be the image of a point (x, y) on the figure if the scale factor is n?

    (nx, ny)

7. Which types of isometries preserve the orientation of a figure? Which reverse the orientation?

    Translations and rotations preserve the orientation of a figure. Reflections and glide reflections reverse it to give the opposite orientation from the original figure.

Discussion Questions for Chapter 8

Muddiest Point:

What questions do you have about the notes you took in Chapter 8, or anything from this week?

MML Homework Questions:

Are there any MML homework problems from Chapter 8 that you would like to discuss?