**ML #3 – Reflections (Transformations – math 7 Plus)**

**Vocabulary:** Reflection Line of Reflection

**REFLECTION ACTIVITY**

**You will need:** a straight edge, pencil, and several pieces of patty paper

**EXAMPLE 1:**

**STEP 1**: Create a pre-image by graphing, labeling, and connecting the following points:

 **A(-3, 2), B(-3, 6), C(-7, 2)**

**STEP 2:** Using a piece of patty paper,

and a straight edge, trace the original figure.

**STEP 3: FLIP** the piece of patty paper

over, lining up  an equal distance

from the y-axis but on the opposite side

of the y-axis.

**STEP 4:** Record the new coordinates below after

the flip and then graph the image .

**A(-3, 2) A’ (\_\_\_\_,\_\_\_\_)**

**B(-3, 6) B’ (\_\_\_\_,\_\_\_\_)**

**C(-7, 2) C’ (\_\_\_\_,\_\_\_\_)**

Compare each set of PRE-IMAGE coordinates with the IMAGE coordinates. What do you notice?

**EXAMPLE 2:**

**STEP 1**: Create a pre-image by graphing, labeling, and connecting the following points:

**** **R(3, 2), T(3, 6), N(8, 1), Q(8, 8)**

**STEP 2:** Using a piece of patty paper,

and a straight edge, trace the original figure.

**STEP 3: FLIP** the piece of patty paper

over, lining up  an equal distance

from the y-axis but on the opposite side

of the y-axis.

**STEP 4:** Record the new coordinates below after

the flip and then add this figure to the graph.

**R(3, 2) R’ (\_\_\_\_,\_\_\_\_)**

**T(3, 6) T’ (\_\_\_\_,\_\_\_\_)**

**N(8, 1) N’ (\_\_\_\_,\_\_\_\_)**

**Q(8, 8) Q’ (\_\_\_\_,\_\_\_\_)**

Compare each set of PRE-IMAGE coordinates with the IMAGE coordinates. What do you notice?

**DISCOVERY:** Based on example 1 and 2, when a figure is reflected over the **y-axis,** the x coordinate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the y coordinate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**EXAMPLE 3:**

**STEP 1**: Create a pre-image by graphing, labeling, and connecting the following points:

 **A(-3, 2), B(-3, 6), C(-7, 2)**

**STEP 2:** Using a piece of patty paper,

and a straight edge, trace the original figure.

**STEP 3: FLIP** the piece of patty paper

over, lining up  an equal distance

from the x-axis but on the opposite side

of the x-axis.

**STEP 4:** Record the new coordinates below after

the flip and then add this figure to the graph.

**A(-3, 2) A’ (\_\_\_\_,\_\_\_\_)**

**B(-3, 6) B’ (\_\_\_\_,\_\_\_\_)**

**C(-7, 2) C’ (\_\_\_\_,\_\_\_\_)**

Compare each set of PRE-IMAGE coordinates with the IMAGE coordinates. What do you notice?

**EXAMPLE 4:**

**STEP 1**: Create a pre-image by graphing, labeling, and connecting the following points:

 **R(3, 2), T(3, 6), N(8, 1), Q(8, 8)**

**STEP 2:** Using a piece of patty paper,

and a straight edge, trace the original figure.

**STEP 3: FLIP** the piece of patty paper

over, lining up  an equal distance

from the x-axis but on the opposite side

of the x-axis.

**STEP 4:** Record the new coordinates below after

the flip and then add this figure to the graph.

**R(3, 2) R’ (\_\_\_\_,\_\_\_\_)**

**T(3, 6) T’ (\_\_\_\_,\_\_\_\_)**

**N(8, 1) N’ (\_\_\_\_,\_\_\_\_)**

**Q(8, 8) Q’ (\_\_\_\_,\_\_\_\_)**

Compare each set of PRE-IMAGE coordinates with the IMAGE coordinates. What do you notice?

**DISCOVERY:** Based on example 3 and 4, when a figure is reflected over the **x-axis**, the x part of each coordinate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the y part of each coordinate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.