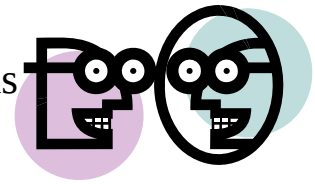
Investigating Transformations  Name_____

Transformations.gsp

Line Reflections:

1. Open the Geometer's Sketchpad file *Transformations.gsp*. Access the first section on Line Reflections (or choose the tab "Reflect" at the bottom of the page).

2. Click on "**Show Reflection in Y-Axis**". What happens to the coordinates of the vertices of the triangle after a reflection in the y-axis?_____

_____

3. Grab any point and drag it around the screen. Does your hypothesis regarding the coordinates still hold true when a new figure is formed?_____

4. Generalize your hypothesis into a rule that will illustrate the changes in the coordinates?

Reflection in the y-axis: (x, y) → (,)

5. Click on "Hide Reflection in Y-axis." Click on "**Show Reflection in X-axis**". What happens to the coordinates of the vertices of the triangle after a reflection in the x-axis? _____

_____

6. Grab any point and drag it around the screen. Does your hypothesis regarding the coordinates still hold true when a new figure is formed?_____

7. Generalize your hypothesis into a rule that will illustrate the changes in the coordinates?

Reflection in the x-axis: (x, y) → (,)

8. Click on "Hide Reflection in X-axis." Click on "**Show Reflection in Line Y=X**". What happens to the coordinates of the vertices of the triangle after a reflection in the line y = x? _____

_____

9. Grab any point and drag it around the screen. Does your hypothesis regarding the coordinates still hold true when a new figure is formed?_____

10. Generalize your hypothesis into a rule that will illustrate the changes in the coordinates?

Reflection in the line y = x: (x, y) → (,)

11. Click on "Hide Reflection in Line Y=X." Click on "**Show Reflection in Line Y = -X**". What happens to the coordinates of the vertices of the triangle after a reflection in the line y = -x? _____
_____

12.. Grab point **A** and drag it around the screen. Does your hypothesis regarding the coordinates still hold true when a new figure is formed?_____

13. Generalize your hypothesis into a rule that will illustrate the changes in the coordinates?

Reflection in the line y = -x: (x, y) → (,)

14. Click on "Hide Reflection in Line Y=X." Click on "**Show Reflection in Y-axis**".

Highlight one of the sides of the original triangle. Choose **MEASURE** from the toolbar at the top of the page. Choose **Length.** The length of the segment will appear on the page. Record this length._____

Highlight the corresponding side of the image triangle. Choose **MEASURE, Length**. Record this length. _____

Do the sides of a triangle maintain their lengths through a reflection? _____

When you close the program,
do NOT save the changes.

By NOT saving the changes, the program will remain in its original state with the original settings.