MTH 95 Tech Lab 1 - Solving Equations Graphically Name:_____

1. In this technology lab you are going learn how to solve equations and inequalities in GeoGebra. To get started, create a GeoGebra account to save your work to by going to www.geogebra.org. Then go to the Graphing Calculator.

   IMPORTANT: Save your work in GeoGebra as you go so as to not accidentally lose your progress!

2. Given the equation $x^2 - 5x - 8 = -x + 6$, begin by defining the left side of the equation to be one function and the right side of the equation to be another function. Write down both functions here.

3. Graph both of these functions in GeoGebra and answer the following questions.

   a. At what points do the two graphs intersect?

   b. What is/are the solution(s) to the equation? Use proper set notation.

   c. For each solution, what output do both functions take on?

4. Spend 2 or 3 sentences describing what a solution to an equation is in regards to its graph.

5. Now consider the inequality $-2x^2 - 4x + 6 \leq \frac{1}{3}x - 5$. Again begin by defining each side of the inequality to be its own function. Write both of these functions here.

6. Graph both of these functions in GeoGebra and answer the following questions.

   a. At what points do the two graphs intersect?

   b. What is/are the solution(s) to the inequality? Use proper set notation and interval notation.

   c. For this interval of solutions, what possible outputs do these functions take on?

7. Spend 2 or 3 sentences describing what a solution to an inequality is in regards to its graph.

8. Save the GeoGebra graphs you've created **as a public file** (or I cannot see it) and write, as legibly as you possibly can, the link to your work here so that I can type it in to take a look.