MATH SUMMER PACKET

INSTRUCTION FOR THE TI-Nspire CX CALCULATOR
I. **Using your graphing calculator** (Keystrokes below are based on using a TI-Nspire calculator):

   A. Be able to do basic graphing

      a) Graph \( y = \frac{3}{4} x + 3 \)

      b) Graph \( y = 2x^2 - 3x + 3 \)

      c) **Find the intersection** of the lines \( y - x = 1 \) and \( y + x = 3 \) using the intersection function on your calculator.

         1. Solve the above Equations for \( y \).
         2. Graph on calculator

         3. Press **Menu**. 4. Highlight **Analyze Graph** and **Intersection**.
5. Using the cursor, highlight the upper and lower bounds and hit enter.

6. The \( x \) and \( y \) coordinates appear at the bottom of the screen. The solution to the system is \((1, 2)\).

d) Find values using tables.  
1. Graph the line \( y = 2x - 7 \)  
2. Access the table by pressing menu and Table or use CNTRL T.
3. You can move up and down using the arrow keys while on the table.

![Graph of the function](image)

e) To see the graph of \( f(x) = 2(x+12)^2 - 133 \), be able to set the window manually, using both your knowledge of functions and of the calculator.

![Window Settings](image)

To set the window so you can see the function, go to Menu, Window/Zoom, and Window Settings. Now, set your window by changing the values to look like the ones below.

![Highlighted window settings](image)

Your graph should look like the one at the left.

Be able to find the zeros, (also known as roots or x-intercepts) using the calculation menu.

**Problem:** Find the zeros of \( f(x) = \frac{2}{3}x^2 - 2x + 6 \)

1. Enter the function into the calculator as a graph
2. Press Menu, Analyze Graph, and Zero.
3. Highlight the upper and lower bounds and hit enter.
4. Repeat steps 2 and 3 to find the second zero.

C. Know how to use the Table Set function.

1. First, use CTRL T to get the table visible on the screen.

2. Access the Table Set function by pressing Menu, Table, Edit Table Settings. You can change the TABLE so that the x-value increases by different increments by changed the Table Step. You can also change the x-value to start with by changing Table Start.