Assignment 3: Solving Equations (0.1&2) **Name**_____
Please provide a handwritten response.

1a. One way to solve equations on TI-89 and Voyage 200 calculators is to use the solve command. For example you can find the zeros of $f(x) = x^2 - 3x + 2$ using the solver.

PROBLEM	TI-89, Voyage 200
FIND ALL ZEROS OF: $f(x) = x^2 - 3x + 2$	Use the **solve** command found in the catalog (gives the syntax) or from **F2 (Algebra) 1(solve)** or type the command on the keyboard. The syntax is $solve(equation, variable)$. Enter $solve(x \wedge 2 - 3x + 2 = 0, x)$ and press enter.

Record the results below.

1b. Now solve $0 = x^3 - x^2 - 2x + 2$ (enter as $0 = x \wedge 3 - x \wedge 2 - 2x + 2$) and record the result below.

2a. Use the **solve** command to solve the equation $\cos x = x^2 - 1$ and record the results below. Enter your equation as follows:

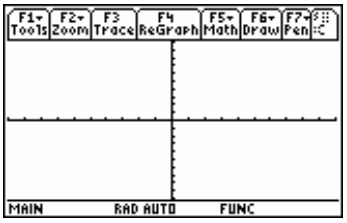
PROBLEM	TI-89, Voyage 200
Solve $\cos x = x^2 - 1$	You can enter your equation as $\cos x = x \wedge 2 - 1$.

Record the output below.

2b. You can find all the zeros of $\cos x = x^2 - 1$ by starting from a graph.

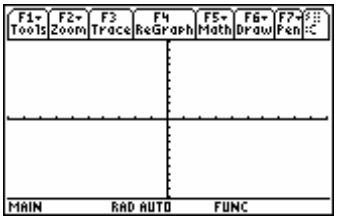
PROBLEM	TI-89, Voyage 200
Solve $\cos x = x^2 - 1$ from a graph.	Graph $y = \cos(x) - x \wedge 2 + 1$ From the **GRAPH** press **F5 (Math) 2 (Zero).** Use **arrow keys** to move the cursor left of the zero for a **Left (lower) Bound** and then use them to find a **Right (upper) Bound**. Press **ENTER** and the calculator will give you the zero.

Sketch the graph and record the results below. Do they agree with the results from **2a**?



$-10 \le x \le 10, -10 \le y \le 10$

2c. Now change parts **a** and **b** to solve the equation $\cos x = x^2 - 5$. Remember to replace the $x =$ with an appropriate value suggested by your graph. Record your solution below.



$-10 \le x \le 10, -10 \le y \le 10$