**Exercise #3 (No computers needed)**
*Due Friday, 10/16/2015, at 11:59pm*

**Computer Science/Programming Terminology**
- Explain these terms:
  - infinite loop, syntax vs. semantics, post increment
- Explain the differences between for, while, and do/while loops.

**Design (Using Assignment #3)**
We are going to work on incremental design and programming, and you need to first get your algorithms for summation and integration working before you need to program multiple functions with extra user input. You will work on getting your algorithms correct for summation and integration this week, and the rest next week.

**As a group, answer the following questions:**

**Understanding the Problem** – Do you understand everything in the problem?
- **Do you understand how to calculate the summation?** By hand, calculate the summation of \(x^5 +10\) with \(a=1\) and \(b=5\).

- **Do you understand how to calculate the integration?** By hand, calculate the integration of \(x^5 +10\) with \(a=1\) and \(b=2\) with 2 rectangles. Now, do the same for the trapezoids. How close are you to the actual answer?

**Design** – Give as much detail as possible based on what you did above
- What are the steps needed to calculate the summation?
- What are the steps needed to calculate the area using the rectangle method?

For **take-home exercises completed in peer-led groups**, each student must participate and **write answers to each of the questions on his/her own paper** to show for credit. Your 1-2-3 grade will be based on the completion/understanding shown on your own piece of paper shown to your TA for a grade before leaving the group session!!!

For **take-home exercises completed on your own**, turn in your work electronically using the TEACH website!!!