Main Exercises Week 3

MATH 131-02: Calculus II Your Name (Print): _____

Due: Wednesday, February 5, 2020 at 1:30pm

Follow the general guidelines for the Main Exercises assignments (the salmon colored handout). Complete your work on this handout. Be sure to **staple** together your pages if you have more than one. Neatness and correctly mathematical grammar is appreciated, makes a good first impression, and can earn you a bonus point!!!

Remember: Your write-up should be **your own**. You may discuss these problems with others, but **you should be alone when you write them up**, using only outlines of any group or Intern discussions. EXPLAIN and SHOW YOUR WORK!!! Final answers will not receive full credit without supportive explanations.

1. Suppose

$$f(x) = \begin{cases} -\sqrt{9-x^2} & -3 \leq x \leq 3 \\ 7-x & x > 3 \end{cases}.$$

Use geometry to evaluate the following definite integral: $\int_{-3}^{9} f(x)dx$. Your solution should include a clear (not too small!) diagram and a complete sentence.

2. Use the **definition** of the definite integral (remember that when we say this we will always mean with **right Riemann sums** NOT left or midpoint, etc.) to evaluate $\int_{-2}^{7}(8-3x^2)dx$. (Be careful of signs!)

With whom did you work on this assignment? (List names or state that you worked alone.)

How much time did you spend on this main exercises assignment? _____