

Main Exercises Week 4

MATH 131-02: Calculus II

Your Name (Print): _____

Due: Wednesday, February 12, 2020 at 1:30pm

Follow the general guidelines for the Main Exercises assignments (the salmon colored hand-out). 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. Find the **derivative** of $g(x) = \int_{\sec x}^{\ln x} \frac{t^2 - 16}{\sin t} dt$.

2. Use the Fundamental Theorem of Calculus Part 2 to evaluate the following:

(a) $\int_1^4 \frac{(x-5)^3}{x^2} dx$

(b) $\int_{-3}^5 f(x) dx$ where $f(x) = \begin{cases} 9 - 2x + 5x^3 & -3 \leq x \leq 1 \\ \frac{1}{x} + 8 & x > 1 \end{cases}$

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? _____