

Main Exercises Week 10

MATH 131: Calculus II, Section 2

Your Name (Print): _____

Follow the general guidelines for the Main Exercises assignments (the salmon colored handout). Be sure to **staple** together your pages if you have more than one, and include your **name** at the top. Neatness is appreciated, makes a good first impression, and can earn you a bonus point!!!

Due: at the beginning of class on Monday, October 29, 2018

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. You may use your own paper on which to write these up.

1. Find the volume of the solid obtained by rotating the region bound by $y = \sin x$ and $y = 0$ on $[0, \pi]$ about the line $x = -2$. Be sure to show detailed work (including a complete sketch with all the details we need, such as labels, shading the region, estimating rectangle, etc.) and not skip steps.

2. Evaluate $\int \sec^{-2} x \tan^3 x \, dx$. Be sure to show detailed work and to not skip steps.