Main Exercises Week 6

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

Due: Wednesday, February 26, 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 correct 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 area of the region bounded by $y = \sin x$ and $y = \cos x$ between $x = 0$ and $x = \dfrac{5\pi}{4}$. Be sure to show all steps including a clear diagram with representative rectangle(s)!

2. Find the volume of the solid with a semicircular base of radius 5 whose cross sections perpendicular to the base and parallel to the diameter are squares. Be sure to show a diagram of the base and the representative rectangle(s) showing where the cross sections are formed. Think carefully about how the solid is described.

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? _____