Review for Exam 2

MATH 131: Calculus II, Sections 2 and 3

IMPORTANT: We will be taking our first exam on Thursday, October 22nd in Gulick 206A (our lab room). Bring a pencil (or two) and an eraser. You should NOT use pen on the exam unless you have some kind of erasable pen. I will provide you with a non-graphing calculator.

The numbers listed after each type of problem are suggested practice problems from the Chapter 6 Review (pages 507-510), unless otherwise noted.

Know How To...

(1) graph curves (see http://math.hws.edu/eking/CalculusII/functionsyoushouldknow for a list of functions you should know how to graph; the link can be found in the assignment for Friday, October 9th).

(2) find the position, displacement and distance traveled of an object moving along a line (3).

(3) find the area between two curves (14-17).

(4) find the volume of a solid using the general slicing method (Section 6.3: 7, 9, 11).

(5) find the volume of a solid of revolution using the disk/washer method (22).

(6) find the volume of a solid of revolution using the cylindrical shell method (22).

(7) decide which method you should use to find volume (23, 27, 33, 35, 49).

(8) integrate functions using techniques from chapter 5.

(9) find the arc length of a curve (43).

(10) find the surface area of an object formed by rotating a curve about an axis (47, 49).

(11) find the work performed in stretching or compressing a spring (53).

(12) find the work performed in pumping fluid (54).

Remember...

(1) to read the directions first (you may not be required to evaluate every integral).

(2) to label all intersection points and functions and include estimating rectangles when graphing.

(3) to shade the region which you are finding the area of/rotating to produce a solid.

(4) your answers should be positive.

(5) to bring a pencil (or several) with a good eraser.

(6) to ask me questions if you are stuck or need clarification.

(7) to breathe!

Organization: The exam will contain roughly six or seven questions, some with parts. Note that this gives you about twelve to fifteen minutes per problem/page. Keep track of time. You may want to set up all the integrals for the application questions first and then go back and evaluate them since the set up is usually worth more than the evaluation. Read carefully as some problems may tell you to NOT evaluate at all!

NOTE: This is a **rough** outline. The exam will be over sections 6.1-6.7. You should be sure to review all of your homeworks (main, reading and WeBWorK), labs, extra fun, and notes from these sections. Recall that all lab keys are either posted on our website or obtainable by sending me an email.