Math 142 – Final Exam Information

Our Final Exam is on Monday, May 3rd, from 12:30-2:30 in 125 Ayres Hall.
You'll be able to use the table of integrals from the text and a calculator for this exam.

- The exam will contain material covering 3 main ideas that we covered this semester:
  1. Fundamental Theorem of Calculus: Integration by using the antiderivative
  2. Problem Formulation: Our pattern of breaking a problem into discrete pieces, applying a formula to each piece, using the sum of the results as an approximation, and then by taking the limit, getting an integral representing the exact value.
  3. Function Approximation: Approximating complex functions by polynomials for the purpose of evaluation or manipulation
- For Idea 1, I'll base the questions on the material for Quiz 3: 5.5 Substitution Rule and 5.8 Integration Using Tables. You should be able to determine and appropriate substitution needed to transform an integral into one that you can use the tables to evaluate. You should also be able to make a given substitution for an integral, including the changes in the limits of integration.
- For Idea 2, I'll base the questions on the material for Quizzes 4 and 5: Chapter 6 Application of Integration. The format and the flavor of the problem will be like those on Quiz 5. Given the statement of the problem and a formula for evaluating a basic piece, you should be able to develop an appropriate integral using the process we've used in class. Most of these problems will just ask you to develop the integral but not to evaluate it.
- For Idea 3, I'll base the questions on the material for Quiz 7: Sections 8.5-8.7, 8.9 Power, Taylor and Maclaurin Series and their applications. You should be able to derive an appropriate series for a given function, determine the radius of convergence for a power series, and use a power series approximation in an application.
- The exam will be comparable to 2 quizzes in terms of length.
- Because of the different types of problems, it is especially important that you read each question carefully and follow the directions. You must show the work to support your answer.