Calculus II Honors Fall 2009
Homework 13
Due: NOT TO BE TURNED IN

Instructions: I don't have anything amusing to say. Try to get as much as you can done by next Wedday, and we can go over problems in class.

Tips

As before, you should remember the definitions of:

$$\sinh x, \cosh x, \tanh x; \text{ inverse functions (e.g., } \sin^{-1} x).$$

You should remember (or be able to easily derive) the derivatives of:

$$e^x, a^x, \ln x, \sin^{-1} x, \cos^{-1} x, \tan^{-1} x.$$

You should remember (or be able to easily derive) the integrals of:

$$e^x, a^x, \frac{1}{x}, \ln x, \tan x, \sec x, \sqrt{x^2+1}, \frac{1}{x^2+1}, \frac{1}{\sqrt{x^2-1}}, \frac{1}{\sqrt{1-x^2}}.$$

Exercises

Section 9.2: 5, 7, 9, 29a

Chapter 5 Review Exercises: 7, 8, 44, 51, 55

Section 6.5: 8

Chapter 6: Review Exercises: 3, 7

Chapter 7 Review Exercises: 56, 66, 68, 70, 75, 92, 95, 101, 104

Section 8.2: 1, 12, 14, 17, 20, 21, 23, 24, 25, 29, 31, 35

Section 8.5: 7, 9, 12, 33, 37, 48, 56, 65, 71, 73, 77, 79

Chapter 8 Review Exercises: 43, 44, 48, 49, 50, 63

Problem A: Let $f(x) = \sqrt{x}$. Compute the 4th (meaning using 4 intervals) upper and lower Riemann sums fro $\int_0^2 f(x)dx$.

Problem B: (100 pts) Derive a formula for $\int \sec^3 x dx$.

Review previous exams and HW 11 review problems. It may also be a good idea to look over the True-False and Concept Checks in Chapters 5–8. You may also want to make sure you can properly state the Fundamental Theorem of Calculus.