Math 125: Calculus II - Dr. Andy Loveless

1st Homework (6-8 hours of work)

Closing Wed, Jan. 11:

HW_1A (4.9)

HW_1B (5.1)

HW_1C (5.2)

Entry Task: Differentiate

1. $F(x) = \frac{7}{x^{10}} - 5\sqrt{x^3} + 4\ln(x)$
2. $G(x) = e^{6x} + 5\tan(x) + \pi$
3. $H(x) = 2\tan^{-1}(x^3) - 3 + e$
4. $J(x) = x^3\cos(4x) + \ln(2)$

4.9 Antiderivatives

Goal: Before we jump into defining integrals, we need to remember some derivatives (in reverse).

Def'n: If g(x) = f'(x), then we say

g(x) = "the derivative of f(x)", and

f(x) = "an antiderivative of g(x)"

Idea: Harry gives the velocity function for some object. What is the original function for the position of the object?

In other words:

Given $g(x) = f'(x)$,

what can you say about $f(x)$?

What we will do in this course:

1. Ch. 5: Define Integrals.
2. Ch. 6, 8, 9: Integral Applications.
3. Ch. 5, 7: Evaluation Methods.

How to get help: First, work ahead on homework; pretend the closing date is actually two days early.

1. Ask questions in quiz section.
2. Math Study Center – Comm. B-014
   Mon – Thurs: 9:30am-9:30pm
   Fri : 9:30am-1:30pm
   Sun: 2:00pm-6:00pm
3. CLUE – Mary Gates Commons
   Sun – Thurs: 7pm-midnight
4. Work in study groups.
5. Visit your TA's office hours.
6. Visit my office hours.
7. If you have tried all these other things, then email me.