

Math 120 Spring 98

Quiz 4

Name: _____

Date: _____

Time Begun: _____

Time Ended: _____

Basic Calculus 2

Friday February 20, 1998

Ron Buckmire

Topic covered: Integration by Substitution and the Fundamental Theorem of Calculus

The point of this quiz is to give you more practice with using the method of integration by substitution to find antiderivatives as well as more practice using the fundamental theorem of calculus.

Instructions:

1. Once you open the quiz, you have 60 minutes to complete it.
2. You may use the book or any of your class notes, and you may use a calculator. You must work alone.
3. If you use your own paper, please staple it to the quiz before coming to class. If you don't have a stapler, buy one.
4. After completing the quiz, sign the pledge below stating on your honor that you have adhered to these rules.
5. Relax and enjoy...
6. **This quiz is due on Monday, February 23**, in class. **NO LATE QUIZZES WILL BE ACCEPTED.**

Pledge: I, _____, pledge my honor as a human being and Occidental student, that I have followed all the rules above to the letter and in spirit.

1. (*2 points*) Compute the derivative of $f(x) = 2^{\sin(x)}$

2. (*4 points*) Use your previous answer to compute the value of $\int_0^{\pi/2} 2^{\sin(x)} \cos(x) dx$

3. (*4 points*) Use your previous answer to find the non-integrally defined solution $w(t)$ to the following initial value problem:

$$w' = 2^{\sin(t)} \ln(2) \cos(t), \quad w(0) = 3$$