Math 120 Spring 2001

Quiz **3** BASIC CALCULUS II

Name: _____
Section: 8:30am or 10:30am (circle one)

Math 120
**Wednesday February 12, 2001**
Ron Buckmire
Alan Knoerr

## Topic covered: Applying the Fundamental Theorem of Calculus

The point of this quiz is to obtain experience with using the fundamental theorem of calculus to solve specific problems.

## Instructions:

1. Once you open the quiz, you have 50 minutes to complete it.
2. Where ever possible indicate your answer clearly, in the form of a sentence, showing all work necessary to understand your solution.
3. You may not use the book or any of your class notes, but you may use a calculator. You must work alone.
4. 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.
5. After completing the quiz, sign the pledge below stating on your honor that you have adhered to these rules.
6. Relax and enjoy....
7. **This quiz is due on Friday, February 16**, at the beginning of 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.

## SHOW ALL YOUR WORK

1. (*3 points*). Write down the accumulation function, $y(x)$, which is the solution of the initial value problem below,

$$y' = x^{1/2}, \qquad y(1) = 0.$$

2. (*2 points*). Write down an antiderivative for $x^{1/2}$, that is, a function $g(x)$ which when differentiated produces $x^{1/2}$.

3. (*5 points*). Use your answers from (1) and (2) to write down the solution of the equation in (1) as an EXPLICIT FUNCTION $y(x)$ which does not have an integral sign in it. You should check that your expression for $y(x)$ complete satisfies the initial value problem given in (1).