

Quiz 4

DUE: FRI. FEB. 28

Name: _____

Date: _____

Wednesday February 26

Time Begun: _____

Ron Buckmire

Time Ended: _____

Topic covered: Fundamental Theorem of Calcululus Part 3

The point of this quiz is for you to illustrate your understanding of initial value problems and how the Fundamental Theorem of Calculus can be used to find solutions of IVPs

Reality Check:

EXPECTED SCORE : _____/10

ACTUAL SCORE : _____/10

Instructions:

1. Once you open the quiz, you have 30 minutes to complete it. Before you open the quiz you should check Blackboard.oxy.edu for any hints.
2. You **may not** use the book or any of your class notes, but you may use a calculator. You must work alone.
3. If you use extra 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. Complete the reality check to give yourself a sense of how well you think you did on the quiz.
5. Relax and enjoy....
6. **This quiz is due on Friday, February 28**, 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

(a) *(1 point)* Write down the derivative of the function $\sin(\sin(x))$.

(b) *(3 points)* Write down the accumulation function, $y(x)$, which is the IMPLICIT FORM of the solution of the initial value problem

$$y' = \cos(\sin(x)) \cos(x), \quad y(0) = 3$$

(c) *(6 points)* Use your answers from (a) and (b) to write down the solution of the initial value problem in (b) as an EXPLICIT FUNCTION $y(x)$ which does not have an integral sign in it. You should check that your final expression for $y(x)$ completely satisfies the initial value problem.