

Name: _____

Section: 8:30 or 9:30 (circle one)

Date: _____

Time Begun: _____

Time Ended: _____

Friday December 4, 1998

Ron Buckmire

Ramin Naimi

Topic covered: Inverse Functions

The point of this quiz is to demonstrate your understanding of the concept of the inverse of a function

Instructions:

1. Once you open the quiz, you have all weekend to complete it.
2. You may ask questions on the class mailing list at `math110sec1-1@oxy.edu` and `math110sec2-1@oxy.edu`. You may not send numerical answers to the lists but can ask and answer general questions about techniques and give hints on ways of solving the problems.
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, December 7, 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.

SHOW ALL YOUR WORK

Given the function $f(x) = e^{\sqrt{x}}$

- a. (4 points) Find the function g which is the inverse of $f(x)$, i.e. find f^{-1} and call it g
- b. (1 point) Find the number \mathbf{a} which solves the equation $f(a) = 2$
- c. (1 point) Find the number \mathbf{b} which solves the equation $g(b) = 0$
- d. (2 points) Compute $g'(2)$ directly from the derivative of g
- e. (2 points) Find $f'(a)$, where a is the solution of $f(a) = 2$ from part **b**. (HINT: It is probably easier for you to use your answer to **part d**. than differentiating $f(x)$ and evaluating it at a).