Quiz 4

DUE: MON. FEB. 24

Name: _____ **Prof. Ron Buckmire**

Date: _____ **Friday February 21**
Time Begun: _____
Time Ended: _____

Topic covered: Understanding Integration

The **student learning outcome** of this quiz is for you to reflect on and demonstrate your understanding of the central concepts and terms in the integral calculus.

Reality Check:

EXPECTED SCORE : _____**/10** ACTUAL SCORE : _____**/10**

Instructions:

1. Once you open the quiz, you have 30 minutes to complete it.
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. UNSTAPLED SHEETS WILL NOT BE GRADED.
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 Monday, February 24**, 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.

Math 120 Spring 2014 Quiz **FOUR**

CHECK YOUR WORK

Two students are discussing different approaches to evaluating a particular integral, $I = \int_1^2 e^{\sqrt{x}} dx$

Pat: Clearly there is no way to solve this integral.

Lee: This is a definite integral, so we must be able to apply the Fundamental Theorem of Calculus to obtain a value for it (it's just a number).

Pat: Hmmm, well now that you mention that it's a definite integral I remembered that we can estimate the value of a definite integral using Riemann sums like Simpson's Rule.

Lee: Why bother? We can use integration by parts and let $u = \sqrt{x}$, so that $du = \frac{dx}{2\sqrt{x}}$ and we can swap the integral we were given for a new integral $\int_1^{\sqrt{2}} 2ue^u du$ that has approximately the same value as the first.

Pat: Well, you have to do all that work to get an approximate answer to an integral we weren't given while I can just plug some numbers into `Wolfram|Alpha` and get an exact value for the one we were supposed to solve, so I win!

[1.] (*10 points*) Write at least five sentences discussing the students' relative understanding of Calculus. Identify **any** and all correct or incorrect statements made by the students. If a statement is incorrect explain why. **You must be careful not to make any incorrect statements yourself in your explanation.** You can get two (2) bonus points for evaluating the integral correctly yourself. **PROOFREAD YOUR ANSWER** and **WRITE LEGIBLY**.