Quiz **6**

DUE: MON. MAR. 17

Name: _____ **Prof. Ron Buckmire**

Date: _____ **Friday March 7**
Time Begun: _____
Time Ended: _____

Topic covered: Applications of Integration: Initial Value Problems

The **student learning outcome** of this quiz is for you to give you more practice in applying your ability to evaluate integrals to diffferent types of problems in mathematics.

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, March 17**, 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 **SIX**

SHOW YOUR WORK

Consider the following initial value problem (IVP)

$$\frac{dy}{dx} = xe^y, \quad y(0) = 0$$

(a) (*6 points*) Show that the solution to the IVP is $y(x) = -\ln(1 - \frac{x^2}{2})$ by using the method of separation of variables.

(b) (*4 points*) Confirm that the given function does indeed satisfy the initial value problem (i.e. the differential equation AND initial condition).