

Quiz 1

DUE: MON. JAN. 27

Name: _____

Prof. Ron Buckmire

Date: _____

Friday January 24

Time Begun: _____

Time Ended: _____

Topic covered: Estimating Definite Integral Using Riemann Sums

The **student learning outcome** of this quiz is for you to illustrate your ability to use Riemann Sums to estimate definite integrals as well as your understanding of what happens as one tries to improve your estimates.

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, January 27**, 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 (a) (*6 points*) Give an estimate for the value of $\int_{-1}^1 x^3 dx$ using a RIGHT HAND Riemann Sum with four rectangles of equal width. Call this value R_4 .

- 1 (b) (*4 points*) Is R_4 , the estimate you computed in (a), an over-estimate or under-estimate of the exact value of $\int_{-1}^1 x^3 dx$? If you repeated your estimate with a much larger number of rectangles $N > 4$, would your estimate R_N be equal to, less than, or greater than R_4 ?