

Quiz 7

BASIC CALCULUS II

Name: _____

Section: 8:30am or 10:30am (circle one)

Math 120

Wednesday, April 11, 2001

Ron Buckmire

Alan Knoerr

Topic covered: Improper Integrals

The point of this quiz is to illustrate your understanding of the different ways an integral can be “improper,” and how to evaluate improper integrals.

Instructions:

1. Once you open the quiz, you have 50 minutes to complete it.
2. Where ever possible indicate your answer clearly, in the form of a sentence, showing all work necessary to understand your solution.
3. You may not use the book or any of your class notes, but you may use a calculator. You must work alone.
4. 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.
5. After completing the quiz, sign the pledge below stating on your honor that you have adhered to these rules.
6. Relax and enjoy....
7. **This quiz is due on Friday, April 13**, 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.

1. Consider the following integrals and explain whether and/or why each can be considered to be an improper integral. In each case, evaluate the integral, if possible. In other words, determine whether each integral converges to a number, or diverges.

(a) (4 points.) $\int_0^1 \frac{1}{s^2} ds.$

(b) (3 points.) $\int_1^{\infty} \frac{1}{t^3} dt.$

(c) (3 points.) $\int_{-1}^1 \frac{1}{e^x} dx.$