

Instructor: Prof. A. Suci

Name: _____

MTH 1124

Calculus 2

Winter 2001

QUIZ 6

Instructions: Put your name in the blanks above. Show your work—if there is not enough room, use another sheet.

(1) [8 points] Consider the integral: $\int_{-1}^3 (x^3 + 2x) dx$

(a) What is the **exact** value of the integral?

(b) Find LEFT(2), RIGHT(2), TRAP(2), MID(2), SIMP(2).

In each of the following problems, explain why the integral is **improper**, then determine whether the integral **converges** or **diverges**. If it converges, determine the value of the integral.

(2) [4 points] $\int_2^{\infty} e^{-3x} dx$

(3) [4 points] $\int_0^1 \frac{x^2 + 1}{x} dx$

(4) [4 points] $\int_0^3 \frac{1}{\sqrt{9 - x^2}} dx$