

GEORGIA TECH

SCHOOL OF MATHEMATICS

MATH 1502

CALCULUS II, SECTION D

Quiz # 2

September 3rd, 2008

First Name : -----

Last Name : -----

1. Compute the following limits (*what method are you using?*)

$$\lim_{x \rightarrow 1} \frac{x^{1/3} - x^{1/5}}{(x^2 - 1)} =$$

$$\lim_{x \rightarrow +\infty} x \tan(41/x) =$$

2. Compute the improper integral

$$\int_0^{+2} \frac{dx}{x^{3/4}} =$$

3. Is the following integral convergent or not ?

$$\int_1^{+\infty} \frac{dx \ln x}{\sqrt{1+x^2}}$$

4. For which values of α is the following integral convergent or divergent ?

$$\int_0^1 \frac{dx}{x^\alpha}$$