

GEORGIA TECH

SCHOOL OF MATHEMATICS

MATH 1502 F

CALCULUS II
Quiz # 3
September 12th, 2007

First Name : -----

Last Name : -----

Section & TA's name : -----

1. Compute (*Hint : compare with the Taylor expansion of $\ln(1 - x)$*)

$$\sum_{k=1}^{\infty} \frac{1}{k 2^k}$$

2. Compute

$$\sum_{k=1}^{\infty} \frac{1}{2k(k+1)} =$$

3. Are the following series convergent and why?
(namely what test is used)

(a)

$$\sum_{k=2}^{\infty} \frac{2^k}{k^{137}}$$

(b)

$$\sum_{k=2}^{\infty} \frac{2}{k(\ln k)^2}$$

(c)

$$\sum_{k=2}^{\infty} \frac{k^2 - \sqrt{173}k - 253}{\{0.01 k^{10} - \sqrt{129}k^5 + 1\}^{1/3}}$$