

MthU242
Northeastern University
Quiz #8
20 Minutes

Calculus II
Professor Gilmore
Mar. 15, 2007

Name: _____.

Show All Your Work

1. Consider the infinite series $\sum_{n=0}^{\infty} \frac{5^n}{n!}$. Does this sequence diverge, or converge? Use the ratio test and explain how you use it to back up your statement.

2. Consider the infinite series $\sum_{n=0}^{\infty} \frac{(2n)!}{(1,000)^n}$. Does this sequence diverge, or converge? Use the ratio test and explain how you use it to back up your statement.

3. There is a swimming pool which is 10 feet deep, 20 feet wide and 50 feet long. It is full of water which has a mass of 1.953125 slugs per cubic foot. Find the work needed to pump all of the water out of the pool.

Name: _____.