# Calculus II - Fall 2014 - Mr. Clontz - PRACTICE Midterm

Name: _____ 9am / 10am

About your midterm and this practice midterm:

- The first few questions will be multiple-choice questions covering basic definitions, theorems, and other concepts in sections 11.1-11.10, 7.1, and 7.2. These will total 10 points of the midterm, and are not covered by the practice midterm.
- The other 90 points of the midterm are based on 9 of the questions asked on this practice midterm. These questions will require full solutions and will be given partial credit based on the rubric for each question in this practice midterm. The rubric will not be given on the actual midterm.
- A review for the midterm will be held on Friday, October 3 during lecture. Students will receive presentation credit for solving problems from the practice midterm.
- The midterm will take place during lecture on Monday, October 6. Up to ten bonus points will be awarded for turning in full solutions to questions asked on this practice midterm before taking the midterm.

1. (10 points) Find the radius of convergence for the series $\sum_{n=0}^{\infty} \frac{2n\,(x-1)^n}{5^{n+1}}$

- ◯ $R = 2$
- ◯ $R = \frac{1}{2}$
- ◯ $R = 5$
- ◯ $R = \frac{1}{5}$
- ◯ None of these.

2. (10 points) Find a power series representation for $\ln(1+x)$.

- ◯ $\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}$
- ◯ $\sum_{n=0}^{\infty} \frac{x^n}{n!}$
- ◯ $\sum_{n=0}^{\infty} \frac{x^{n+1}}{n+1}$
- ◯ $\sum_{n=0}^{\infty} (-1)^n x^{2n+1}$
- ◯ A different series. (Write your answer for credit.)

3. (5 points) Find the Maclaurin Series for $f(x) = e^x$.

- ◯ $\sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}$
- ◯ $\sum_{n=0}^{\infty} \frac{x^n}{n!}$
- ◯ $\sum_{n=0}^{\infty} \frac{x^{n+1}}{n+1}$
- ◯ $\sum_{n=0}^{\infty} (-1)^n x^{2n+1}$
- ◯ A different series. (Write your answer for credit.)