BONUS: Section 9.3: Taylor Series

MATH 131: Calculus II, Section 2

Name (Print): _____ BONUS reading assignment!!!

Due: Monday, December 10, 2018 at the beginning of class

After reading Section 9.3 (pages 684-694 in the text), respond to the following questions **on this handout**. Be sure to staple your pages together before turning it in if they are not double sided. **You must answer all parts to all questions to earn full credit!!! Also, use FULL SENTENCES to answer questions that require words.** See the salmon homework guidelines handout for details. Earn up to 5 bonus points for your homework grade by completing this assignment. To earn all five points, be sure that your answers use full sentences and that you thoroughly answer ALL questions.

Response Section

1. State the definition of a Taylor and Maclaurin Series for a Function.

2. Explain the differences and similarities between the Taylor and Maclaurin series.

3. Can all functions have Taylor series? Why or why not? Explain carefully but not necessarily verbosely.

4. What is the Maclaurin Series for $f(x) = \dfrac{1}{1-x}$? What is familiar about this series? How can we quickly find the interval of convergence using past knowledge? (Note that this question has three parts!)

5. State the definition of the binomial coefficients.

6. Look at Table 9.5. Write down the Taylor series for $\frac{1}{1+x}$. Now integrate both sides of this equation, integrating the right hand side term by term. Do you notice a similarity with another row in the table?

Questions/Overview Section

6. Write down any **questions** you have on the reading. Be as specific as possible! See the salmon homework guidelines handout for details.

Reflection Section

7. Write **two or three** sentences reflecting on the process of your work so far in the course. See the salmon homework guidelines handout for details.

Time Section

8. How much time did you spend on this reading assignment? _____