

Section 9.1: Approximating Functions with Polynomials

MATH 131: Calculus II, Section 2

Name (Print): _____

Due: Wednesday, December 5, 2018 at the beginning of class

After reading Section 9.1 (pages 661-671 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.

Response Section

1. State the definition of a power series together with the definition of the center of the series. Be sure to use full sentences.

2. In first semester calculus we learned that we could approximate a differentiable function f near a point a by what?

3. Why would we want to approximate a function with a polynomial? Remember to explain in full sentences.

4. State the definition of Taylor Polynomials.

5. Does the accuracy of a Taylor polynomial generally increase or decrease with the order of the polynomial? Explain. Remember to explain in full sentences. (Hint: read the definition of Taylor Polynomial very carefully!)

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? _____