Section 8.3: Infinite Series

MATH 131: Calculus II, Section 2

Name (Print): _____

Due: Friday, November 9, 2018 at the beginning of class

After reading Section 8.3 (pages 619-623 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 geometric series. (This definition is within the text, not in its own box. Write the whole sentence.)

2. State Theorem 8.7 about the convergence and divergence of geometric series. Include the diagram.

3. Consider the series $\sum_{k=0}^{\infty} \left(\frac{4}{3}\right)^k$.

   (a) Is this a geometric series? Why or why not?

   (b) Does the series converge or diverge? Explain and if it converges, state what it converges to.

4. Consider the series $\sum_{k=0}^{\infty} \left(-\frac{3}{4}\right)^k$.

(a) Is this a geometric series? Why or why not?

(b) Does the series converge or diverge? Explain and if it converges, state what it converges to.

5. The textbook doesn't give an explicit definition of a telescoping series. Looking at Example 3, explain what a telescoping series is. Where does it's name come from?

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? _____