

Section 4.9: Antiderivatives

MATH 130: Calculus I

Due: Monday, April 29, 2019 at 12:20pm

Name (Print): _____

After reading Section 4.9 (pages 321-331 in the text), respond to the following questions **on this handout**. Be sure to staple your pages together before turning it in. **You must answer all parts to all questions to earn full credit!!!** See the salmon homework guidelines handout for details. You are encouraged to take additional notes wherever you are keeping your class notes.

Response Section

1. State the definition of an antiderivative.
2. State Theorem 4.15: The Family of Antiderivatives. Make sure to include hypotheses!
3. (a) Why do functions have more than one antiderivative? (b) How many antiderivatives does one function actually have?
4. (a) Find three antiderivatives of $f(x) = \sin x$. (b) Explain briefly why you know they are antiderivatives/how you got them.

5. State Theorem 4.16: Power Rule for Indefinite Integrals. Make sure to include hypotheses!

6. State Theorem 4.17: Constant Multiple and Sum Rules. Make sure to include hypotheses!

Questions/Exercise Section

3. Write down at least two questions you have on the reading. OR if you have NO questions, do exercise 26 in Section 4.9 (page 332). Be sure to show ALL steps for full credit! See the salmon homework guidelines handout for details.

Reflection Section

4. Write **two or three** sentences reflecting on the progress of your recent work in the course. See the salmon homework guidelines handout for details.

Time Section

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