Section 2.4: Infinite Limits

MATH 130: Calculus I

Due: Monday, February 11, 2019 at 12:20pm   Name (Print): ——————————————————

After reading Section 2.4 (pages 83-88 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. Draw the graph of a function $f(x)$ for which it is true that $\lim_{x \to -1} f(x) = \infty$, then write one sentence describing what this means.

2. Copy the definition of a vertical asymptote from page 85.

3. Given the definition you wrote in question 2, and observations from examples 2 and 5 in the text, how would we decide where to look for a vertical asymptote of a function, and how would we justify that we have found one? (Note this is two separate questions that need to be addressed with full sentences!)

4. Suppose a is a constant and f and g are two functions such that $g(a) = 0$. Consider the function $H(x) = \dfrac{f(x)}{g(x)}$. Does H necessarily have a vertical asymptote at $x = a$? Explain your reasoning.

Questions/Overview Section

5. Write down at least two questions you have on the reading. OR if you have NO questions, do exercise 18 in Section 2.4 (page 89). For a full solution of exercise 40, label your graph clearly. See the salmon homework guidelines handout for details.

Reflection Section

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

Time Section

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