Reading Assignment for Section 2.5

MATH 130: Calculus I, Section 4
Spring Semester 2017

Follow the general guidelines for the Reading Assignment (the salmon colored handout). Be sure to include and label all four standard parts 1,2,3,4 of the Reading Assignment in what you hand in. Be sure to **staple** together pages if you have more than one, and include your **name** at the top of the page. Neatness is appreciated!!!

Due: at the beginning of class on Friday, February 10th

Read:

Section 2.5: Limits at Infinity, pages 88-96

Notes:

Limits at infinity help us understand the end behavior of functions, that is, what happens to the function for very large or very large negative values of x. Does the function approach a particular value? Does it tend toward infinity? Does it oscillate? In this section we investigate how to evaluate these limits. This gives us a greater understanding of the function and also will help us graph the functions.

Remember that your answers should include complete sentences for every question. Be sure to answer all parts of each question!

Reading Questions for part (1), Response:

a) Describe what $\lim\limits_{x \to -\infty} f(x) = 2$ means without using the words "horizontal asymptote".

b) (a) What is a horizontal asymptote? (b) Is it possible to cross a horizontal asymptote? If so, how many times? If not, why not?

c) In Example 3 on pages 91-92, a technique is described for dealing with limits at infinity of rational functions. (Actually, you can apply this same idea to other functions that are not rational too!) (i) Describe the technique. (ii) Why is it "effective"?

Remember parts 2-4 on the salmon handout!