

Reading Assignment for Section 1.1

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: by 5:15pm in my office on Thursday, January 19th

Read:

Note to Students, page xviii, Appendix A, pages 1061-1067, and

Section 1.1, pages 1-9: Review of Functions

Notes:

At the center of everything we do in calculus is a function. We will use calculus to give us new information about different functions, but first we must recall what we have learned in the past about functions. Section 1.1 will help us review the definitions and basic characteristics and properties we already know about functions.

Remember that your answers should include complete sentences for every question.

Reading Questions for part (1), Response:

- a) What is the Vertical Line Test used to determine? Explain how and **why** the Vertical Line Test works.
- b) Suppose you are trying to determine the domain of a function f . What are the two most important problems that restrict your domain? Can you think of others?
- c) Suppose we have the functions $f(x) = 2x - 3$ and $g(x) = \frac{2x^2 + 5x - 12}{x + 4}$.
 - (i) What are the domains of f and g ?
 - (ii) Factor the numerator of g and simplify the function.
 - (iii) Are f and g the same function? Why or why not?
- d) If $f(x)$ and $g(x)$ are both odd functions with domain and range the real numbers, can you say whether the function h defined by $h(x) = f(x) + g(x)$ is an odd function or an even function, or neither? What about $j(x) = f(x) \cdot g(x)$? Explain why or why not.

Remember parts 2-4 on the salmon handout!