

Reading Assignment for Section 3.6

MATH 130: Calculus I, Sections 2 and 3
Fall Semester 2013

Follow the general guidelines for the Reading Assignment (the salmon colored handout). Be sure to include and label all four standard parts a,b,c,d of the Reading Assignment in what you hand in. Be sure to **staple** together each assignment, and include your **name** and which **section** of calculus you are in at the top of the page. Neatness is appreciated!!!

Due: at the beginning of class on Friday, October 11th

Read:

Section 3.6, pages 175-180: The Chain Rule!

Notes:

This reading helps us figure out how to take derivatives of functions that are compositions of functions. Check out the proof of the Chain Rule at the end of the section! Make sure that you address all parts of each question.

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

Reading Questions for part (a):

1. Write a sentence or two that explains completely in words, using no symbols, what the chain rule is and how it works.
2. There is a trigonometric formula for what $\sin 2x$ is equal to. If you don't already know it, find it in the front of your text. Now use the product rule to find the derivative of $\sin 2x$ using that formula. Does your answer match up to what you would get if you just applied the chain rule? Explain carefully. (Note: they SHOULD match up. You may need to use another trigonometric formula to make it look like they do.)
3. The function $k(x) = \sec^5(4x^3 - 12)$ is the composition of three functions. Find $f(x)$, $g(x)$ and $h(x)$ such that $k(x) = f(g(h(x)))$. Show your work clearly. (Note: I am not asking you to differentiate this yet!)

Remember parts b-d on the salmon handout!