Math 3592H **Honors Mathematics I Fall Semester 2012**

Assignment 6 - Due Thursday 10/18/2012

Read: The rest of Section 1.6 and the start of Section 1.7. I am not sure how far we will get into Section 1.7, but we will not finish it.

Exercises:
Hand in only the exercises which have stars by them.
Section 1.6: 4, 5*, 6*, 7.
Section 1.7: 1d*, 2*, 4b*, 5c*, 7a*.

Hint for question 1.6.7 on Assignment 5: Read the note in the margin of the book. Consider that function. Where it has a minimum the derivative is zero. Get an expression for that derivative to see that it will produce an answer to the question. You have to show that the minimum cannot occur at either a or b. For this, use the fact that if g is a function for which $g'(a) < 0$ then for all y in some small open interval $(a,a+u)$ we have $g(y) < g(a)$. The proof of this comes from examining the definition of the limit which appears in defining the derivative.

Comments!:
We have been covering some really difficult stuff, most of which you are seeing in a more sophisticated form than other classes get to see, and which is capable of a still more sophisticated treatment. You have been doing really well coming to grips with the proofs and the concepts. Well done!