Math 140

Exam on Chapter 3 Information

What you should know:

- The difference between a relative max/min and an absolute max/min.
- What a critical number is.
- How to find an extreme value on a closed interval (see page 165).
- You should know Rolle’s Theorem and how to find the value of c guaranteed by Rolle’s Theorem.
- You should know the Mean Value Theorem and how to find the value of c guaranteed by the MVT.
- You should know how to find the open intervals where a function is increasing and decreasing.
- You should know how to use the First Derivative Test to find the relative extrema. Make sure you know to plug the critical numbers into the original function to find the extreme values!
- You should know how to find the open intervals where a function is concave up and concave down.
- You should know how to find inflection points on the original function.
- How to use the Second Derivative Test to find relative extrema.
- How to evaluate limits at infinity.
- How limits at infinity give you the horizontal asymptotes of a function.
- You should know how to sketch the graph of a function without a graphing calculator, using the steps on your handout. You DO NOT need to memorize the steps on your handout. I will ask all relevant questions. You do need to know how to find the information requested on the handout.
- You should know how to find a max or a min in an optimization problem.
- You should know how to fill in a chart similar to the class handout to determine a root using Newton’s Method.
- How to find a differential.

Review Problems

On pages 238 through 240 in your book is the Chapter 3 Review. I suggest you be able to do the following problems.

Do problems: 1-95 odds.