

## 140 - Calculus I: Test 3 Study Guide

Henson - Fall 09

### TEST 3 TOPICS:

1. Finding relative maximums and minimums for functions.
2. Finding absolute max/min on a closed interval.
3. Rolle's Theorem.
4. Mean Value Theorem.
5. Locating where a function is increasing/decreasing.
6. Locating the critical values for a function.
7. The First Derivative Test.
8. Determining concavity of a function.
9. Identifying points of inflection.
10. The Second Derivative Test.
11. Horizontal asymptotes and infinite limits.
12. Curve sketching: be able to sketch a function using extrema, concavity, etc.
13. Optimization problems: know the basic formulas for area, volume, etc.
14. Tangent line approximation using differentials.
15. Approximating function values using differentials.