

## 140 - Calculus I: Test 2 Study Guide

Henson - Fall 09

### TEST 2 TOPICS:

1. Formal definition of derivative (that uses limits).
2. All derivative rules:
  - Constant rule
  - Power rule
  - Constant multiple rule
  - Power rule
  - Sum and difference rule
  - Chain rule
  - Product rule
  - Quotient rule
3. Higher order derivatives ( $y''$ ,  $y'''$ , etc.).
4. Implicit differentiation (including higher order derivatives).
5. Related rates problems [Know area, volume, perimeter equations for all basic shapes].
6. Finding the equation of a tangent line.