Test 1 Study Guide

Things you should know.

1. How to compute limits.

   (a) Multiplying by conjugates.

   (b) Factoring.

   (c) Limits of trig functions.

2. Continuity.

   (a) The following functions are continuous everywhere:
      i. All polynomials $p(x) = a_n x^n + a_{n-1} x^{n-1} + \cdots a_1 x + a_0$.
      ii. The exponential function e^x.
      iii. The trig functions $\sin x$ and $\cos x$.
      iv. Any product, sum, difference, or composition of any of the above.

   (b) Know the definition of continuity and how to show that a function is continuous or discontinuous on a given interval.

   (c) Intermediate Value Theorem and it's application to showing that solutions to certain equations exist.

3. Differentiation.

   (a) Know the definition and how to use it to compute derivatives.

   (b) Know how to interpret the derivative geometrically (as the slope of the tangent line).

   (c) Be able to find the equation of a tangent line.

4. Be familiar with the homework problems. The exam questions will be similar to them.

5. My office is Boyd 434E and my email is chadm@math.uga.edu. If you need help, let me know. Remember it is my job to help you understand this material.