411 REAL ANALYSIS II WEEKLY QUIZ 3

Feb 15, 2016

Name:

By printing my name I pledge to uphold the honor code.

No books, notes, internet, etc. This should take about 20 minutes.

REMBER TO SIGN IN!

- **1.** Derivatives
 - a) Please define what it means for a function to be differentiable and what the derivative of a function is.

b) What is a local minimium? What is the exact connection between derivatives and local max/min? Give an idea of why this should be true.

2. MVT

a) Please state the General Mean Value Theorem and the picture and explanation for its physical significance.

b) What goes into the proof of the General MVT?

- **3.** Applications of Derivatives and MVTs
 - a) What can you say about the continuity of a differentiable function and why can you say it?

b) If a function is differentiable, what can you say about the deriv function and why?