FOUNDATIONS OF ANALYSIS
Fall 2007

QUIZ #3 REFERENCE
October 5, 2007

Following is a copy of the directions for the quiz.

This quiz consists of three questions. No partial credit will be assigned. On each of the questions one can earn a maximum of one point. Please work without the aid of notes, books, calculators, computers and other people.

One can prepare for the quiz by preparing the following:

• definitions
  1. a function
  2. a finite set
  3. an infinite set
  4. a countable set
  5. an uncountable set
  6. the cardinality of a finite set
  7. two sets have the same cardinality
  8. the power set of a set
  9. the continuum hypothesis
  10. statement of the induction theorem
  11. the decimal representation of an element in [0, 1].

• the true/false questions for Chapter #5, 6, 7 (except #33, 34, 35)

• prove the induction theorem

• proof of the fact that the rational numbers in (0, 1] are countable

• cocktail-party-proof of $|2^S| \neq |S|$