

## Math 421 - Midterm 1 Notes

1. Format of midterm: 5 questions. No notes or textbook allowed.
2. Topics to cover:
  - (a) Set Theory
  - (b) Real Numbers (but you do not have to remember all of the properties (P1)-(P12))
  - (c) Natural Numbers
  - (d) Induction
  - (e) Rational, Irrational Numbers
  - (f) Binomial Theorem
  - (g) Functions (Domain and Range, image, inverse of image, one to one, bijection, onto)

Logic, Geometric Series, Integers etc will not be in the exam.

3. Exercises to cover:
  - (a) Examples from Lectures 2, 3, 4
  - (b) HW1, HW2
  - (c) Exercises 11, 12, 13, 17, 20 Chapter 1 in Spivak Book. Exercises 12, 13, 14, 15 Chapter 2 in Spivak Book. Exercises 5, 8, 9, 12, 15 Chapter 3 in Spivak Book.