Review for Math 290 Midterm 3

The midterm covers the material covered in sections 9.3-9.7, 10.1-10.5 of the textbook.

Definitions to know:

1. Injective (one-to-one) (p. 200)
2. Surjective (onto) (p. 200)
3. Bijective (p. 203)
4. Composition (p. 206)
5. Inverse relation (p. 209)
6. Denumerable (p. 223)
7. Countable (p. 223)
8. Uncountable (p. 224)
9. Smaller Cardinality (p. 236)

You should be able to:

1. Prove or disprove a function is injective, surjective, or bijective.
2. Work with composition of functions.
3. Prove results about inverse functions.
4. Work with permutations
5. Know how to prove that a set is denumerable.
6. Know how to prove that a set is uncountable.
7. Know examples of finite, denumerable, and uncountable sets.
8. Be able to show that one set has larger cardinality than another.
9. Be able to prove two sets are numerically equivalent by using the Schroder-Bernstein Theorem.