Review for Math 290 Midterm 2

The midterm covers the material covered in sections 5.4-5.5, 6.1-6.4, 7.2-7.4, 8.1-8.6, 9.1-9.2 of the textbook.

Definitions to know:

1. Least element (p. 129)
2. Well-ordered (p. 130)
3. Relation (p. 175)
4. Domain (p. 176)
5. Range (p. 176)
6. Reflexive (p. 176)
7. Symmetric (p. 177)
8. Transitive (p. 177)
9. Equivalence relation (p. 179)
10. Equivalence class (p. 179)
11. Function (p. 197)

You should be able to:

1. Prove and disprove existence results
2. Prove results using induction, generalized induction, and strong principle of induction
3. Prove by minimum counterexample
4. Express statements involving two or more quantifiers.
5. Prove or disprove statements.
6. Show a relation has or does not have certain properties (such as reflexive).
7. Prove a relation is or is not an equivalence class, express the equivalence classes, and describe the partition of the set.
8. Work with addition and multiplication of modulo arithmetic.
9. Prove or disprove a relation is a function.