Math 300 Assignment 5a

PROBLEMS: 6.1, 6.2, 6.4, 6.7, 6.8, 6.9, 6.18, 6.22, 6.28, 6.31a

PROBLEM I: Give a counterexample to the following statement: Every onto function from $\mathbb{R}$ to $\mathbb{R}$ is one-to-one. Also review the examples from the table in HW 4 and the examples you used in problem 4.12.

PROBLEM II: Work through several of the exams in the exam archive (before you look at the solutions)

The problems above are DUE NEVER, but you must understand this material for exam 2. It would be wise to have worked through these problems before Wednesday, so that you can ask questions about them during lecture.

HOMEWORK NOTES

- These are important exercises for practice. Take this serious even though it is not official due.
- Problems 6.1, 6.2, and 6.18 are short answer, basic understanding of definitions questions.
- Problems 6.7, 6.8, and 6.9 are all computation problems pertaining to finding solutions to linear diophantine equations and the Euclidean Algorithm. Make sure you understand the Linear Diophantine Equations Theorem.
- Problems 6.4 and 6.28 are applications problems of the Linear Diophantine Equations Theorem (problems where you use the LDE theorem in a proof).
- Problem 6.31a is sort of a review problem pertaining to divisibility by two.