Practice problems for the final

- 1. Mathematical induction. Problems 17-53, pages 43-44.
- 2. Linear diophantine equations. Problems 22-34, pages 31-32.
- 3. The Chinese remainder theorem. Problems 37-45, pages 131-132.
- 4. The theorems of Fermat and Euler. Problems 1-20, page 138.
- 5. Basic properties of groups. See problems 1-2, assignment 6.
- 6. Primitive roots and indices. Problems 1-16, page 231.
- 7. The Möbius inversion formula. Problems 9-12, page 113.
- Quadratic residues and quadratic reciprocity. Problems 1-34, pages 184-185.
- 9. Continuous fractions. Problems 15-24, page 209, and 1-16, page 219.
- 10. Pell's equation. Problems 19-24, page 261.