Problem Set 10
Due: 9:00 a.m. on Wednesday, March 30

Instructions: Carefully read Sections 3.6, 4.1, 4.2 and 4.3 of the textbook. Submit your solutions to the following problems. Be sure to adhere to the expectations outlined on the sheet *Guidelines for Problem Sets*. Submit your solutions in-class or to Dr. Cooper's mailbox in the Department of Mathematics.

Exercises: From pages 180–191 and 203–205 of the textbook.

1. Section 3.6 #3.24(b), page 186

2. Section 3.6 #3.25(b), page 186

3. Section 3.6 #3.26(c), pages 186–187

4. Section 4.2 #4.1, page 203

5. Section 4.2 #4.2, page 203

6. Section 4.3 #4.5, page 204

7. Section 4.3 #4.6, page 204

8. Section 4.3 #4.7, page 205

9. Section 4.3 #4.9, page 205

10. Section 4.3 #4.10(b), page 205

Note: You may use Maxima for tedious computations. If you do so, then please still show sufficient work. The following commands may be helpful:

- to find $a \pmod{n}$ type the command $\mathrm{mod}(a, n)$;

- to find the greatest common divisor of two positive integers a and b type the command $\gcd(a, b)$;

- to find the prime factorization of a positive integer n type the command $\mathrm{factor}(n)$;

- to find the inverse of n modulo m (where $\gcd(n, m) = 1$), type the command $\mathrm{inv\_mod}(n, m)$.