Problem Set 14
Due: 9:00 a.m. on Wednesday, April 27

Instructions: Carefully read Section 5.1 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 282–298 of the textbook.

1. Section 5.1 #5.2 parts (a), (b), and (c), page 283

2. Section 5.1 #5.4, page 283

3. Section 5.1 #5.5, pages 283–284

4. Section 5.1 #5.6(b), page 284

5. Section 5.1 #5.8, page 284

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 $\mathrm{inv\_mod}(n, m)$;

- to find $n!$, type the command $n!$.