

Problem Set 12

Due: 9:00 a.m. on Wednesday, April 13

Instructions: Carefully read Section 6.2 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 361–371 of the textbook.

1. Section 6.2 #6.6(b), page 362
2. Section 6.2 #6.7 parts (a), (b) and (c), page 362

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 `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 `factor(n)`;
- to find the inverse of n modulo m (where $\gcd(n, m) = 1$), type the command `inv_mod(n, m)`.