

CMSC/MATH 456, Fall 2009

Homework 6, due at the beginning of class on November 23rd

Instructions. The homework should be your own work, without any collaboration or consulting sources such as the Web. Please include partial solutions if you cannot fully solve a problem. Neatly write your solutions and staple your work; late homework will not be accepted. *All problems below are the numbered exercises given in the textbook.*

0. Read and understand Section 7.3.1 and Appendices B.2.1, B.2.2 and B.2.3; we will also cover these quickly in class. You are not required to understand the details of algorithm eGCD (of Appendix B.1.2, which is used as a black-box in Appendix B.2.2), but are encouraged to do so if you can.

Also, read and understand the paragraph on “The distribution of primes” and the discussion following Theorem 7.32, from page 263 of the textbook.
(0 points)

1. Exercise 7.5. **(5 points)**
2. Exercise 7.11. **(15 points)**
3. Exercise 7.13. **(5 points)**
4. Exercise 7.14. **(5 points)**
5. Exercise 7.15. **(5 points)**