Math 453, Section X, Spring 2008
HW Assignment 1, due Monday, 1/28/2008

Name (print please):

- **Write your name on the cover sheet and staple the sheet to the assignment.** Do the problems in order, and make sure that each problem is clearly labelled.
- **Deadline:** The assignment is due in class Monday, 1/28; late homework, or homework dropped off in mailboxes, will not be accepted. (You can, of course, turn in the homework early, in my office, any time before the due date).
- **Open House:** Take advantage of my Open House, which will begin this week and be Wednesdays, 5 pm – ??, in 141 Altgeld. The open house is an informal office hour for students in my classes is intended as the main point of contact. If you have hw questions about the homework, stop by at the Open House! (If there is sufficient demand, I'll add an extra Open House hour.)
- **About Proofs:** Proofs should be properly written up, using correct mathematical notation and terminology, and in complete sentences. The Strayer text has numerous examples of carefully written proofs; use these as models for your own proofs.

  When working with concepts like "divisibility" or "prime", you have to use the "official" definitions of these concepts, and not any preconceived or intutive notions.

  In your proofs, you can use any results covered in class, and in the corresponding sections of the Strayer text (but not, for example, a result found in another book). *When using such a result in the course of a proof, say so, and cite the specific result used (e.g., "by Prop. 1.6(a)".)* For a suitable reference, you can use the definition/theorem handouts passed out for the first time on Friday, and which will be periodically updated. In fact, the main purpose of these handouts is to provide a handy reference for the hw assignments. (For the current homework, use the Wednesday (1/23) version of the handout.)
- **Solutions versus answers:** Solutions, rather than answers, are expected for all problems. Even for non-proof problems, an answer alone ("23", "yes", "true", "false") is not sufficient; you need to show how you arrived at the answer.

HW 1 Problems

All problems are from Chapter 1 or Strayer, Sections 1.1–1.3. **Only turn in those problems marked by an asterisk.** The non-asterisk problems are for the most part of the warmup/quickie/no-brainer type, problems that test your knowledge of definitions and theorems, and easy computational problems, with answers in the back of the book. Problems of this sort aren't suitable as graded hw problems, but you should be prepared for such problems to come up in exams, so make sure you do not neglect these problems.

1. * 6(a)(b)
2. * 8
3. * 14(a)(b)(c)
4. * 23
5. * 30
6. * 36 (a)(b)
7. * 41
8. 1(a)(c)(d)
9. 2
10. 3(a)(e)
11. 7
12. 16 (a)(b)
13. 17
14. 18 (a)
15. 20
16. 21(a)
17. 32(a)(c)
18. 33(a)(b)(c)
19. 35