

Name (please print):

Math 213, Spring 2006 HW Assignment 2

Instructions

- **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.
- **Write-up:** For full credit it is essential that you write up your solution in a clear, logical manner, and explain any key steps.
- **Deadline:** The assignment is due in class on Friday; 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).
- **Tips:** The problems are taken from the even-numbered problems in the Rosen text. Most are similar to odd-numbered problems from the day-to-day non-graded assignments, for which there are answers in the back of the Rosen text and detailed solutions in the “Student Solution Guide”. Think of the non-graded assignments as a warmup or practice for the graded HW assignments. If you have been diligent in doing these non-graded assignments, as well as the daily reading assignments, you should have no difficulty with the graded assignment (and the same goes for exams).
- **Open House:** I will have an “Open House” **Thursday**, Feb. 2, 5 - 6 pm, in 147 Altgeld. Feel free to stop by with questions about the homework or anything else relating to this course!

Problems

- **Section 2.2:** 2(a)(c)(e), 4, 8(a)(d), 10, 14(a)(c)(e), 18, 20(a)(b)(c).

About these problems. All are from Section 2.2. In Problems 1–14 of 2.2, you have to prove a Big-Oh estimate “explicitly” by (i) providing two “witnesses” C and k for the estimate and (ii) showing that these witnesses work, i.e., that the relevant inequality actually holds with these choices of C and k . Part (ii) is an essential ingredient of a complete solution; this part isn’t included in the answers in back of the book, but it can be found in the Student Solution Guide. For the remaining problems (i.e., 18 and 20), explicit values of C and k are not required. You can refer to general results about sums and products of Big-oh estimates, but state clearly which result you are using in each case.

Almost all problems in this assignment have an odd-numbered “companion” problem that is of the same type and for which you can look up the answer/solution in the back of the book or the Student Solution Guide. These companion problems are part of the non-graded/non-collected assignment. I trust you are diligent in doing all of these non-graded problems...; in any case, if you get stuck on or are uncertain about a problem on the graded assignment, try the corresponding odd-numbered problem first, check your answer, and look up the solution if necessary.