

Homework Expectations (10/2/09)

Assignments: Homework assignments will be announced on the blog after every Wednesday and Friday class, with occasional extra problems announced after Monday's class. Be sure and check the blog after each class.

Due Dates: Assignments are due at the beginning of class on Wednesday. Late homework will not be accepted except in extraordinary circumstances and (except for emergencies) with advance permission.

Collaboration: I encourage you to work on the homework problems with other students. However, when you write up your solutions to hand in, *you must write your own solutions in your own words*. If you collaborate on any assignment, list the names of any people with whom you collaborated on that assignment.

Identification: Make sure the first page of each homework packet is clearly labeled with your name, your student number, the course number and section (Math 300A or 300B), and the assignment due date. Put your name on every page, in case the pages become separated.

Staple: Staple all the pages of your assignment together.

In order: Arrange your solutions in the order the problems were assigned, with each problem clearly labeled. Problems that are out of order might not get credit.

Legible: Write your answers neatly and legibly, not too small, with as few erasures or crossouts as possible. Be sure to distinguish clearly between similar symbols, such as $\ell/e/1$, $s/5$, $t/+$, x/\times , $y/4$, $z/2$, \in/ε , \subset/C , \cup/U , and uppercase/lowercase letters. Unless mathematical ideas spring fully and impeccably realized from your pen, *your first draft is not acceptable*.

White space: Leave one-inch margins on all four sides of your pages, and leave at least two blank lines between consecutive problems. Don't be stingy with white space.

Short answers: If a problem asks for an answer to a question but does not specify that you are to prove that it's true, the only thing that needs to be on your paper is the answer. I encourage you to show the work that leads up to the answer, because if your answer is wrong, your work might qualify you for partial credit. If you do show your work, be sure the answer is clearly identified. (Drawing a box around the answer is usually a good way to identify it.)

Exercises vs. Problems: The questions in the book marked as *Exercises* all have answers in the back of the book. I will still require you to write up your solutions and hand them in for a grade, because this will help to ensure that you actually do the problems. These will be graded simply for completion: If your paper shows that you made a good-faith effort to do all the problems, you'll get full credit. The questions marked as *Problems* will, to the extent possible, be graded for correctness.

See other side.

Proofs: For any homework problem that asks you to “prove” or “show” something (both words mean the same thing), write a complete, rigorous mathematical proof, with due attention to the conventions of mathematical writing that will be explained later in the course. At the beginning of each solution, please state clearly what you’re going to prove in the form of a *theorem* (not a verbatim transcription of the problem statement). Show clearly where your proof begins and ends. For example, if the problem says “Prove that $|a|^2 = a^2$ for every real number a ,” then your solution might look like this:

Theorem: If a is any real number, then $|a|^2 = a^2$.

Proof: There are two possible cases: either $a \geq 0$ or $a \leq 0$. If $a \geq 0$, then by definition $|a| = a$, and thus $|a|^2 = a^2$. If $a \leq 0$, then $|a| = -a$, and so we conclude that $|a|^2 = (-a)^2 = a^2$ by substitution. \square

Proofread: Don’t forget to read over what you’ve written before handing it in. You’ll be amazed how many silly mistakes you can catch that way.

Word processing vs. writing by hand I welcome computer-typeset submissions from those who are comfortable producing mathematical homework assignments by computer. If you do use a computer, please print out your solutions and turn in paper copies.

Because typesetting formulas by computer takes specialized software and a lot of practice, I don’t insist that you use the computer. I’m happy to accept handwritten assignments, as long as they are *neat and legible*, and all mathematical symbols and formulas are clearly decipherable.

For those who decide they’d like to typeset their homework assignments, I’ve posted some mathematical typesetting resources on the course web page.