

Homework may be typed or handwritten. Either way, it's due at the start of class on January 30th. If you type your homework, it is preferred that you print it out and physically hand it in. However, if you're unable to print it out you may email a PDF (*not* a Word document!) to your grader at yc75@uw.edu before the start of class.

The homework problems are from Sundstrom's *Mathematical Reasoning*, available here:
<https://scholarworks.gvsu.edu/books/9/>

Throughout the course, you should imagine that you are writing your proofs so that they can be understood by someone who is also taking Math 300 at the same time. At this point, your proofs should be in paragraph form (rather than in two columns).

For this assignment, please solve:

- Chapter 3.1, page 96–101, problems 2bc, 3ah, and 19abc.
- Using the axioms on the [Axioms handout](#) and any theorems proven in class or on previous assignments, prove the following statements:
 1. Let a and b be real numbers. If a and b are negative, then ab is positive.
 2. There does not exist a smallest real number.
 3. Let a and b be integers. If $a > b$, then $a \geq b + 1$.

For extra practice, I recommend completing the progress checks in chapter 3.1. (Don't hand in the progress checks. Just think about the problems on your own. You can look up solutions in the back of the book.)