Math 640A **Fall 2002**
Homework 2, due Friday September 20.

1. Read the book!

2. Find a good place to write programs. I support Matlab and C but you can use something else. Let me know what type of computer you will be working on, because this may affect your answers.

3. (10 points) Section 1.3 problem 11 parts a and b.

4. (30 points) Section 2.1 problems 9, 14, and 32.

5. (30 points) Do this problem as a Good Problem, paying attention to the *Layout* and *Flow* handouts.

   Section 2.1 computer problem 1.

6. (10 points) If we evaluate $((x \times y)/y) - x$ for reasonable values of x and y (so there is no over- or underflow, etc.), do you expect to get exactly 0? Try it and explain the results.

7. (20 points) Section 2.2 problems 8 and 21.

8. (optional, no credit) On page 41 the book claims that double precision computations are much slower than single precision because they are done in software. Run a test on your computer to compare the relative speed. On some computers you will find that double precision is *faster* than single. Explain how this can be.