Homework 3, due Thursday, March 12.

1. Textbook, Ch. 3, problem 1. Submit the results for the roots for tolerance $1e-5$, and the number of iterations it takes for each subinterval where the function changes sign.

2. Textbook, Ch. 3, problem 8.

3. Textbook, Ch. 3, problem 17.

4. Express the Newton iteration for solving each of the following systems of nonlinear equations.
   (a) $x_1^2 + x_2^2 = 1$, $x_1^2 - x_2 = 0$;
   (b) $x_1^2 + x_1 x_2^3 = 9$, $3x_1^2 x_2 - x_2^3 = 4$.

5. Textbook, Ch. 9, review questions a,e,f.

6. Textbook, Ch. 9, problem 3.