Math 251: Problem Set 3
Due: February 2, 2010

- Section 2.5: 3, 5, 13, 17(Matlab), 31

- Section 2.6: 1, 3, 7, 15, 17, 23, 39, 43

- Section 2.7: 1, 5, 9(Matlab), 13, 25, 33

- Section 2.8: 1, 3, 19, 21, 23

Matlab

1. Create a symbolic function
$$f_1(t) = \frac{1.5}{1 + t^2}$$
   and evaluate the function for 5 equally spaced points between 1 and 5.

2. Plot the function $f_1(t)$ for $-5 \le t \le 7$.

3. Create a symbolic function
$$f_2(t) = -\frac{3t}{(1 + t^2)^2}$$
   and evaluate the function for 5 equally spaced points between 1 and 5.

4. Plot the function $f_2(t)$ for $-5 \le t \le 7$.

5. Use hold to plot f_1 and f_2 on the same plot.

6. Add labels for the x-axis and y-axis, and add a title and legend. The commands are xlabel, ylabel, title, legend respectively. You can type help command to get more information.

7. Evaluate both f_1 and f_2 as t goes to 0.