Homework #10

Due Date: Apr. 13, 2005

1. O&W 9.21(a-c)

2. O&W 9.22(a-c)

3. O&W 9.29

4. O&W 9.31

5. Matlab problem involving O&W 9.25 (a-c). For this problem, you will derive and plot frequency response, $|H(\omega)|$, from the pole-zero plot. For each part, please attempt to guess what the frequency response looks like prior to evaluating it with Matlab. For each pole-zero plot, determine the frequency response over the range of ω = [-10:0.01:10] using the following pole (X) and zero (0) locations:
   a. (i) X: $s = -3$, 0: $s = -1 \pm 5j$
      also, compare to (ii) X: $s = -3$, 0: $s = -0.25 \pm 5j$
   b. (i) X: $s = -1 \pm 5j$
      also, compare to (ii) X: $s = -0.25 \pm 5j$
   c. (i) X: $s = -3$, 0: $s = -1$
      also, compare to (ii) X: $s = -3$, 0: $s = -0.25$

   One additional part:
   d. Examine the response of a system with (i) a single pole at X: $s = -3$ and compare to (ii) two poles at X: $s = -3$.

6. Bruce 6.10 (on back)

7. Bruce 6.16 (on back