Math 475, Problem Set #8
(due 3/30/06)

(Note: All problems from Brualdi mentioned below are at the end of Chapter 7.)

A. Brualdi, problem 1, parts (a), (b), and (d). (Hint for part (d): if you can't see the pattern in the sequence $0, 1, 2, 6, 15, \ldots$, try looking at the ratio between each term and the next.)

B. Brualdi, problem 9.

C. Solve the recurrence relation $h_n = nh_{n-1} + n - 1$, $(n \geq 1)$ with the initial value $h_0 = 0$. It is not enough to guess the pattern; you must prove it using induction. (Hint: If you can't see the pattern in the sequence of numbers, look for nearby numbers with lots of factors.)

D. Brualdi, problem 14. (Use the method given in the book.)

E. Brualdi, problem 15. (Use the method given in the book.)

F. Brualdi, problem 26. (Use the method given in the book.)