EECS20n, Quiz 4, 10/14/04

The quiz will take 15 minutes. Write your reponse on the sheet.

Print your name and lab time here:

Last Name _____ First _____ Lab time _____

1. **5 points** Consider the difference equation

$$y(n) = 0.5x(n-2) + x(n-1) + x(n). \tag{1}$$

a. What state would you choose to obtain an $[A, b, c^T, d]$ representation for this system?

b. What is the $[A, b, c^T, d]$ representation for your choice of the state?

$A =$ $, b =$ $, c^T =$ $, d =$

c. What is the zero-state impulse response h of the system (1)?

2. **5 points** Plot $y = h * x$ for signals h, x shown below. Carefully mark the values of y.