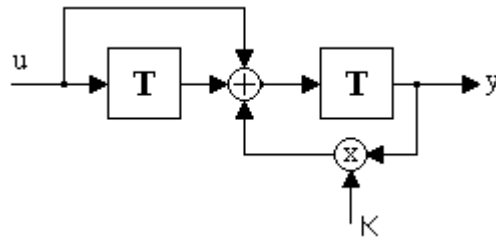


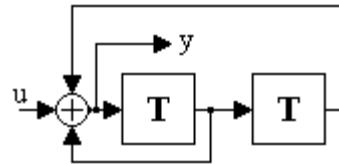
Exam 1 More Review Questions

1. Find the transfer function in  $z$  for the following system.



2. A digital filter is found to have an impulse response of  $h(nT) = \{0.5, 0.75, 1.0, 0.5, 0, 0, 0, \dots\}$   
 What will be the gain of a d.c. signal input to this system?

3. Show that the impulse response of the following system produces the Fibonacci sequence:  $\{1, 1, 2, 3, 5, 8, \dots\}$



4. Consider an ideal integrator.

a) If a unit impulse is applied to the input of an ideal integrator what is the response?

b) Use the results of part a to find the  $z$ -transform for the transfer function for an ideal integrator.