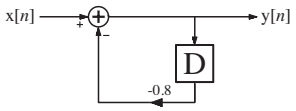
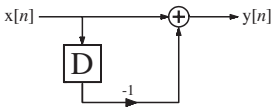
Solution to ECE Test 11 S09

1. Identify by letter the systems below that are unstable. _____
   (Unstable includes marginally stable.)
   E,F,G,I
2. Which stable systems have a frequency response of zero at $\Omega = 0$? _____
   B,D
3. Which stable systems have a frequency response of zero at $\Omega = \pm\pi$? _____
   None
4. Which stable systems have a frequency response that is monotonic in the frequency range $0 < \Omega < \pi$?
   (Monotonic means always increasing or always decreasing.) _____
   A,B,D
5. Which stable systems have all their poles at $z = 0$? _____
   B
6. Which stable systems have zeros on the unit circle in the z plane? _____
   B,C,D,H

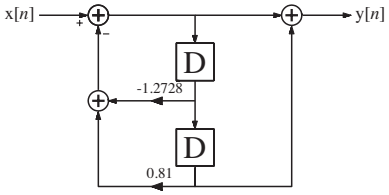
A



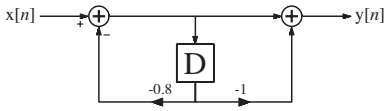
B



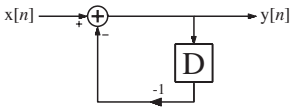
C



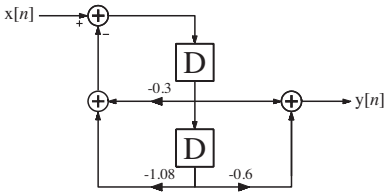
D



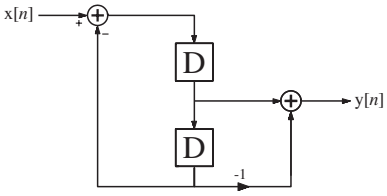
E



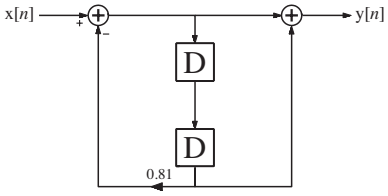
F



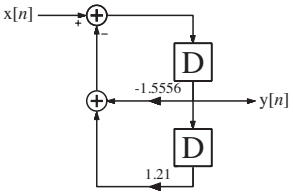
G



H



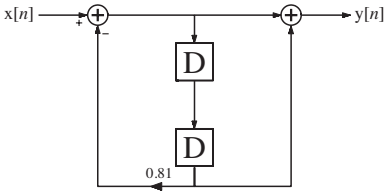
I



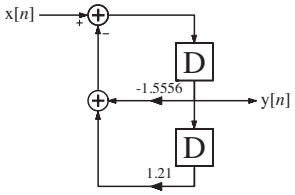
Solution to ECE Test 11 S09

1. Identify by letter the systems below that are unstable. _____
   (Unstable includes marginally stable.)
   B,D,E,H
2. Which stable systems have a frequency response of zero at $\Omega = 0$? _____
   F,I
3. Which stable systems have a frequency response of zero at $\Omega = \pm\pi$? _____
   None
4. Which stable systems have a frequency response that is monotonic in the frequency range $0 < \Omega < \pi$?
   (Monotonic means always increasing or always decreasing.) _____
   C,F,I
5. Which stable systems have all their poles at $z = 0$? _____
   F
6. Which stable systems have zeros on the unit circle in the z plane? _____
   A,F,G,I,

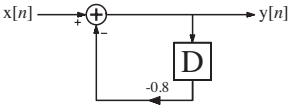
A



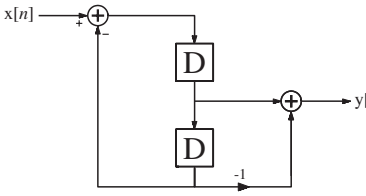
B



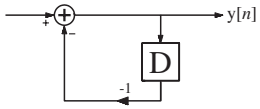
C



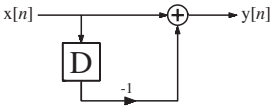
D



E



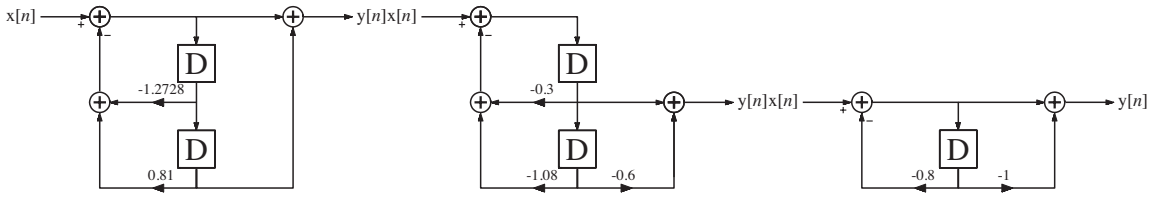
F



G

H

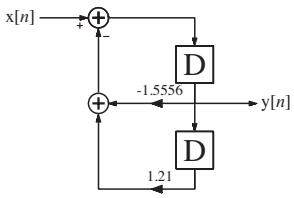
I



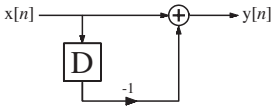
Solution to ECE Test 11 S09

1. Identify by letter the systems below that are unstable. _____
   (Unstable includes marginally stable.)
   A,D,F,I
2. Which stable systems have a frequency response of zero at $\Omega = 0$? _____
   B,E
3. Which stable systems have a frequency response of zero at $\Omega = \pm\pi$? _____
   None
4. Which stable systems have a frequency response that is monotonic in the frequency range $0 < \Omega < \pi$?
   (Monotonic means always increasing or always decreasing.) _____
   G,B,E
5. Which stable systems have all their poles at $z = 0$? _____
   B
6. Which stable systems have zeros on the unit circle in the z plane? _____
   B,C,E,H

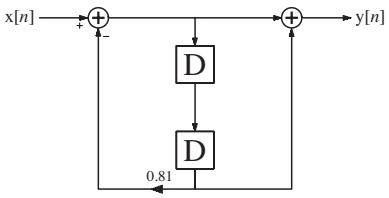
A



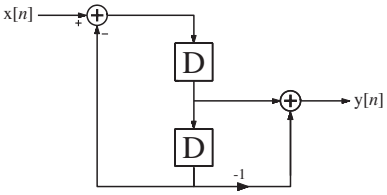
B



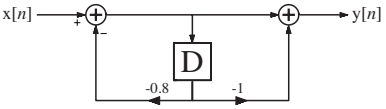
C



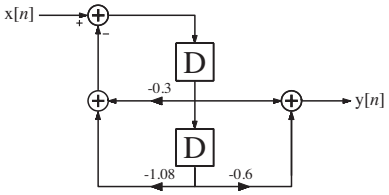
D



E



F



G

H

I