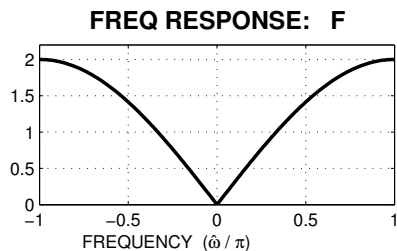
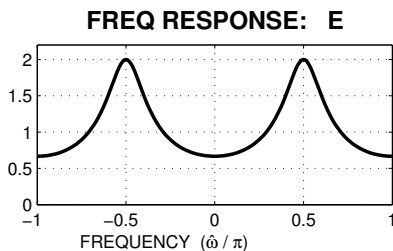
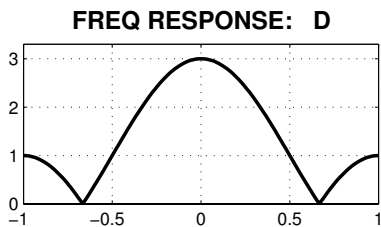
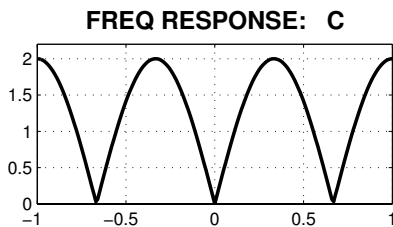
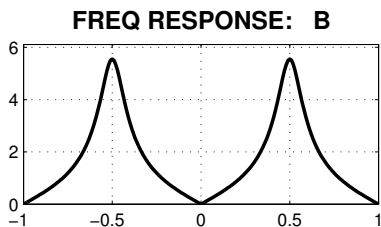
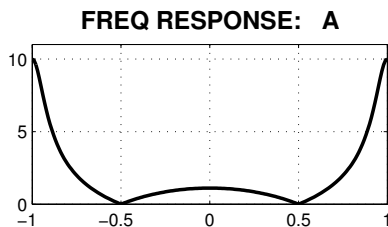


PROBLEM:



For each of the frequency response plots (A, B, C, D, E, F), determine which one of the following systems (specified by either an $H(z)$ or a difference equation) matches the frequency response (magnitude only).

NOTE: the frequency axis is **normalized**; it is $\hat{\omega}/\pi$.

$\mathcal{S}_1 : y[n] = 0.8y[n - 1] + 0.5x[n]$

$\mathcal{S}_5 : H(z) = z^{-1} - z^{-4}$

$\mathcal{S}_2 : y[n] = -0.5y[n - 2] + x[n - 1]$

$\mathcal{S}_6 : H(z) = \frac{1 + z^{-1}}{1 - 0.9z^{-1}}$

$\mathcal{S}_3 : y[n] = -0.8y[n - 1] + x[n] + x[n - 2]$

$\mathcal{S}_7 : H(z) = 1 + z^{-1} + z^{-2}$

$\mathcal{S}_4 : y[n] = x[n] - x[n - 1]$

$\mathcal{S}_8 : H(z) = \frac{1 - z^{-2}}{1 + 0.64z^{-2}}$

Mark your answers in the following table:

FREQUENCY RESPONSE	SYSTEM ($\mathcal{S}_\#$)	FREQUENCY RESPONSE	SYSTEM ($\mathcal{S}_\#$)
A		B	
C		D	
E		F	