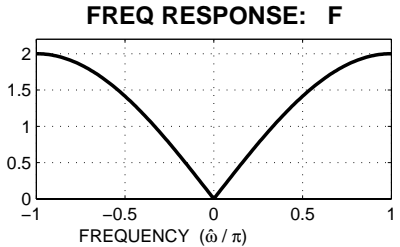
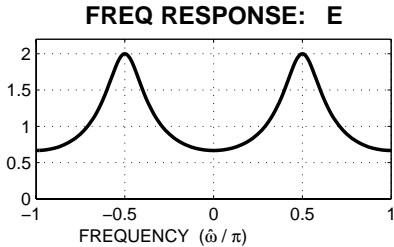
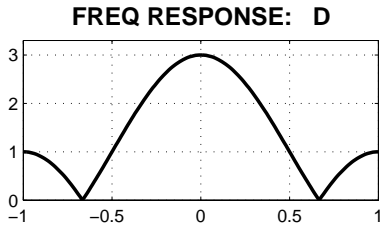
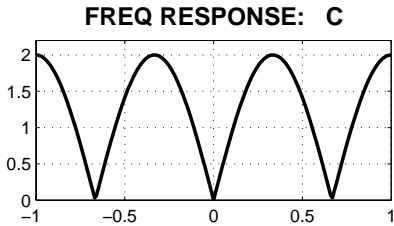
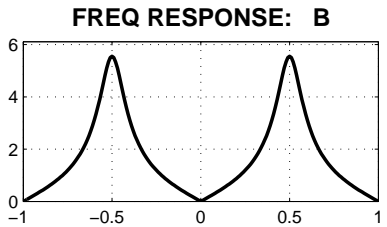
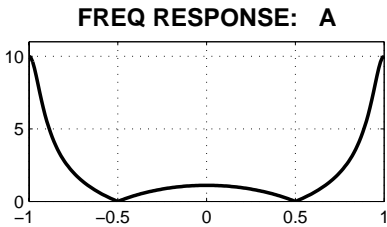
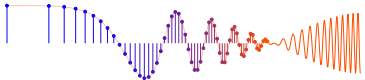


PROBLEM:



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 $\hat{\omega}/\pi$.

$\mathcal{S}_1 : H(z) = \frac{1 - z^{-2}}{1 + 0.64z^{-2}}$

$\mathcal{S}_5 : y[n] = x[n] - x[n - 1]$

$\mathcal{S}_2 : H(z) = 1 + z^{-1} + z^{-2}$

$\mathcal{S}_6 : y[n] = -0.8y[n - 1] + x[n] + x[n - 2]$

$\mathcal{S}_3 : H(z) = \frac{1 + z^{-1}}{1 - 0.9z^{-1}}$

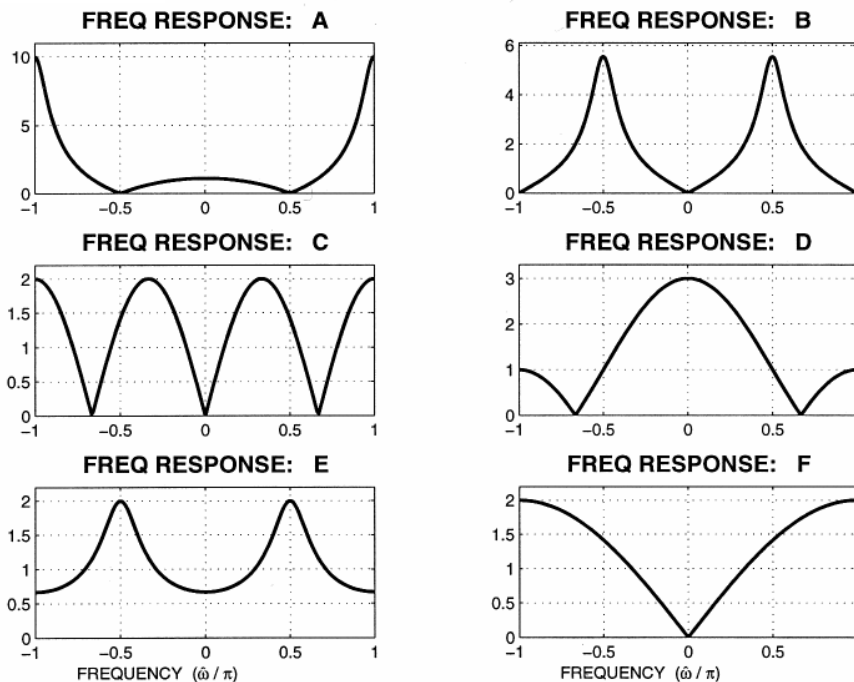
$\mathcal{S}_7 : y[n] = -0.5y[n - 2] + x[n - 1]$

$\mathcal{S}_4 : H(z) = z^{-1} - z^{-4}$

$\mathcal{S}_8 : y[n] = 0.8y[n - 1] + 0.5x[n]$

Mark your answers in the following table:

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



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 $\hat{\omega}/\pi$.

$$S_1 : H(z) = \frac{1 - z^{-2}}{1 + 0.8z^{-2}}$$

$$S_2 : H(z) = 1 + z^{-1} + z^{-2}$$

$$S_3 : H(z) = \frac{1 + z^{-1}}{1 - 0.9z^{-1}}$$

$$S_4 : H(z) = z^{-1} - z^{-4}$$

$$S_5 : y[n] = x[n] - x[n - 1]$$

$$S_6 : y[n] = -0.8y[n - 1] + x[n] + x[n - 2]$$

$$S_7 : y[n] = -0.5y[n - 2] + x[n - 1]$$

$$S_8 : y[n] = 0.8y[n - 1] + 0.5x[n]$$

Mark your answers in the following table:

FREQUENCY RESPONSE	SYSTEM ($S_{\#}$)	FREQUENCY RESPONSE	SYSTEM ($S_{\#}$)
A	S_6	B	S_1
C	S_4	D	S_2
E	S_7	F	S_5