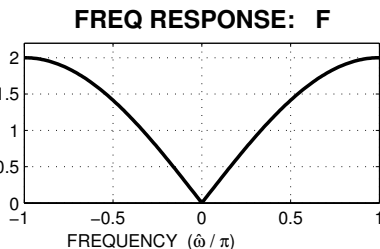
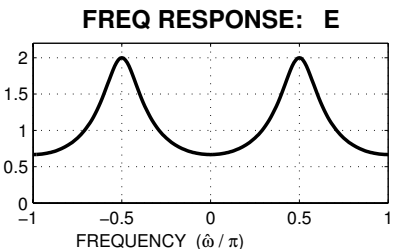
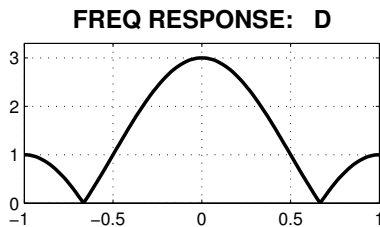
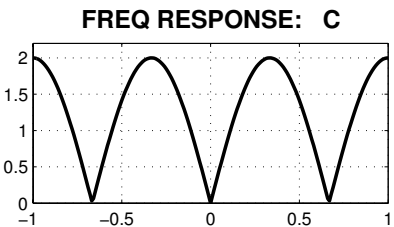
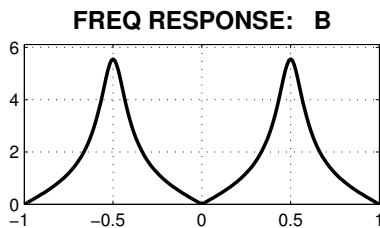
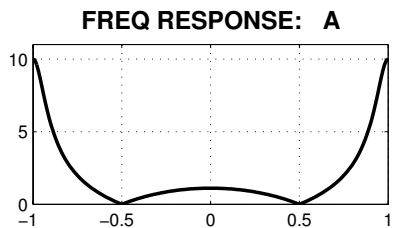


**PROBLEM:**



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	