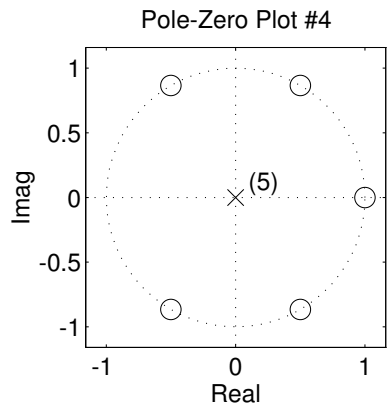
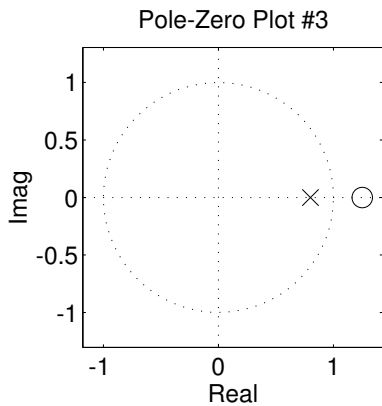
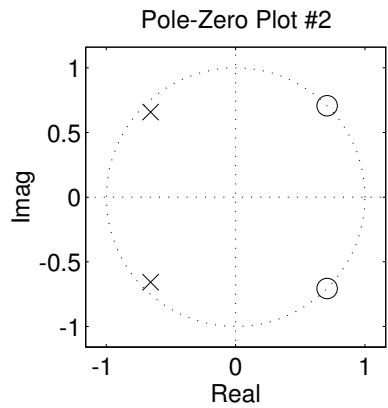
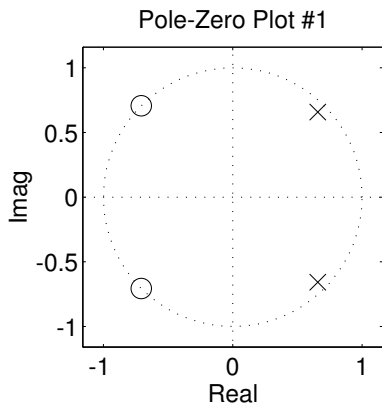


PROBLEM:

For each of the pole-zero plots (#1, #2, #3 and #4), determine which one of the following systems (specified by either an $H(z)$ or a difference equation) matches the pole-zero plot.

$$\mathcal{S}_1: y[n] = -0.96y[n-2] + x[n] + \sqrt{2}x[n-1] + x[n-2]$$

$$\mathcal{S}_2: y[n] = 0.8y[n-1] + 0.8x[n] - x[n-1]$$

$$\mathcal{S}_3: H(z) = \frac{1 - z^{-1}}{1 + 0.8z^{-1}}$$

$$\mathcal{S}_4: H(z) = \frac{1}{1 + 1.3152z^{-1} + 0.8649z^{-2}}$$

$$\mathcal{S}_5: y[n] = -1.3152y[n-1] - 0.8649y[n-2] + x[n] - \sqrt{2}x[n-1] + x[n-2]$$

$$\mathcal{S}_6: H(z) = \frac{1 + \sqrt{2}z^{-1} + z^{-2}}{1 - 1.3152z^{-1} + 0.8649z^{-2}}$$

$$\mathcal{S}_7: y[n] = \sum_{k=0}^7 x[n-k]$$

$$\mathcal{S}_8: y[n] = x[n] + x[n-1] + x[n-2] + x[n-3] + x[n-4] + x[n-5]$$

$$\mathcal{S}_9: H(z) = 1 - z^{-1} + z^{-2} - z^{-3} + z^{-4} - z^{-5}$$