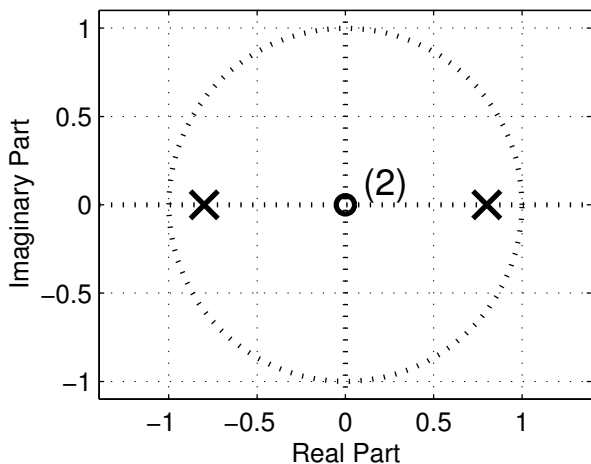
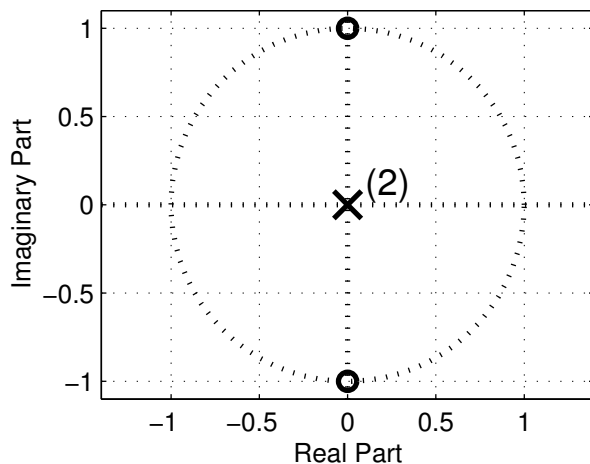


**PROBLEM:**

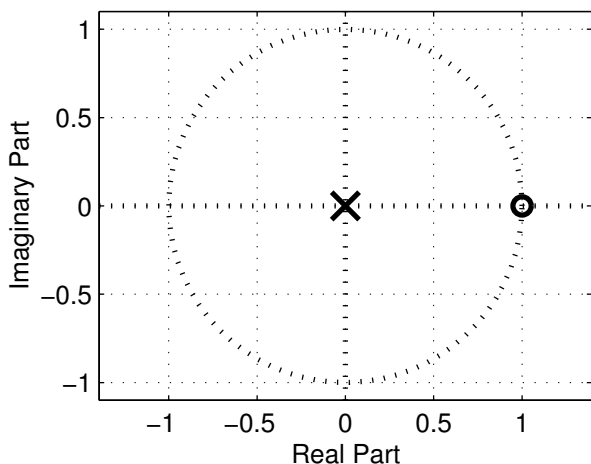
**Pole-Zero Plot P**



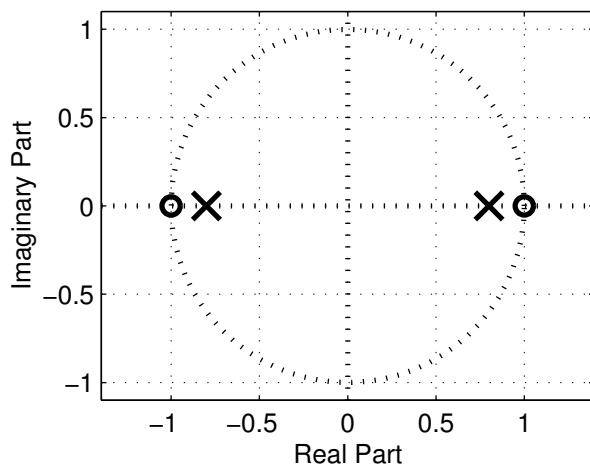
**Pole-Zero Plot Q**



**Pole-Zero Plot R**



**Pole-Zero Plot S**



For each of the pole-zero plots (P, Q, R, S), determine which one of the following systems (specified by either an impulse response  $h[n]$  or a difference equation) matches the pole-zero plot.

$S_1: h[n] = (-0.8)^n u[n] - (0.8)^n u[n]$

$S_5: h[n] = (0.8)^n u[n] + (-0.8)^n u[n]$

$S_2: h[n] = \sum_{k=0}^3 \delta[n - k]$

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

$S_3: y[n] = 0.64y[n - 2] + x[n] + x[n - 2]$

$S_7: y[n] = 0.64y[n - 2] + x[n] - x[n - 2]$

$S_4: h[n] = \delta[n] + \delta[n - 2]$

$S_8: y[n] = x[n] - x[n - 1]$

Mark your answer in the following table:

POLE-ZERO PLOT	SYSTEM ( $S_{\#}$ )	POLE-ZERO PLOT	SYSTEM ( $S_{\#}$ )
P		Q	
R		S	