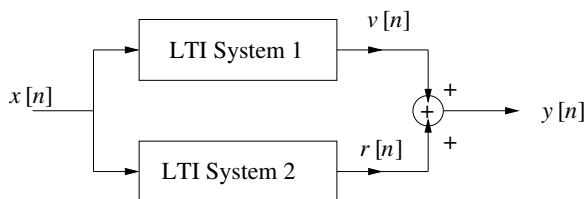


PROBLEM:

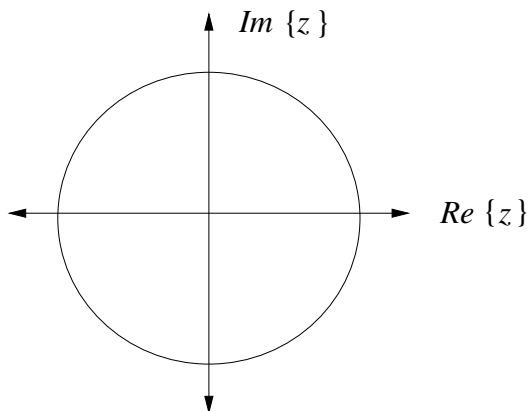
Consider the parallel form LTI system depicted below.



System 1 is defined by the difference equation $v[n] = x[n] - x[n - 5]$.

System 2 is defined by the system function $H_2(z) = z^{-1} + \frac{1}{4}z^{-2} + z^{-5}$.

- (a) Determine the system function $H_1(z)$ associated with System 1 and plot the zeros of $H_1(z)$.



$H_1(z) =$

- (b) Determine the impulse response of the overall parallel form system. That is, find $h[n]$ such that $y[n] = x[n] * h[n]$.

$h[n] =$