3.37 zero @ $z = 0$

poles @ $z = -3/4$, $z = \frac{\sqrt{2}}{2} e^{j\pi/4}$, $z = \frac{\sqrt{2}}{2} e^{-j\pi/4}$

$$X(z) = \frac{z}{(z+3/4)(z-\frac{\sqrt{2}}{2}e^{j\pi/4})(z+\frac{\sqrt{2}}{2}e^{-j\pi/4})}$$

ROC: $|z| > 3/4$

Because it is causal

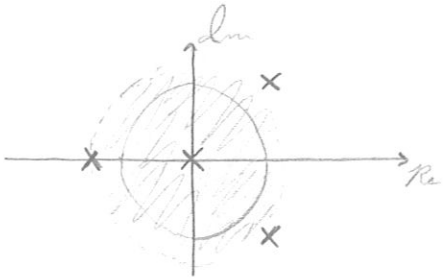
$y[n] = x[-n+3] = x[-(n-3)]$

$$Y(z) = z^{-3} X(z^{-1}) = \frac{z^{-4}}{(z^{-1}+3/4)(z^{-1}-\frac{\sqrt{2}}{2}e^{j\pi/4})(z^{-1}+\frac{\sqrt{2}}{2}e^{-j\pi/4})}$$

zero @ $z = \infty$

poles @ $z = -4/3$, $\frac{2}{\sqrt{2}} e^{-j\pi/4}$, $\frac{2}{\sqrt{2}} e^{j\pi/4}$, 0

$z = -4/3$, $\sqrt{2} e^{-j\pi/4}$, $\sqrt{2} e^{j\pi/4}$



ROC: $0 < |z| < 4/3$