

ECE 310: Quiz #3 (3pm Section E) Fall 2018

UIN: _____

Name: _____

Score: _____

1. (5 pts) Determine the z-transform and sketch the pole-zero plot with the ROC for the signal

$$x[n] = \frac{1}{2} \left(\frac{1}{2} \right)^{n-1} u[n-1] - \delta[n-1]$$

2. (5 pts) Given the z-transform pair $x[n] \leftrightarrow X(z) = \frac{1}{1 - \frac{1}{6}z^{-1}}$ with ROC: $|z| > 1/6$, use the z-transform properties to determine the z-transform of the signal $y[n] = x[n] * (3^{n-2}x[n-2])$