ECE 343 - Homework #21

z-Transforms - Summer 2018

Find the z-transform for the following:

1) $y_{k+3} - 2.7y_{k+2} + 2.4275y_{k+1} - 0.7268y_k = 0.9^k u(k) + 1.2\delta(k)$

2) $x_{k+1} - 0.8x_k = 2\sin(0.3k)u(k)$

        $y_{k+1} - 0.7y_k = 0.3x_k$

What is the difference equation for y(k)?

3) $Y(z) = \left(\dfrac{z(z-0.9)}{z^3 - 2.7z^2 + 2.4275z - 0.7268} \right)$

4) $Y(z) = \left(\dfrac{z(z-0.9)}{(z-0.9\angle 0.1)(z-0.9\angle -0.1)(z-1\angle 0.2)(z-1\angle -0.2)} \right)$

Find the inverse z-Transform for the following

5) $Y(z) = \left(\dfrac{z(z-0.9)}{z^3 - 2.7z^2 + 2.4275z - 0.7268} \right)$

6) $Y(z) = \left(\dfrac{z(z-0.9)}{(z-0.9\angle 0.1)(z-0.9\angle -0.1)(z-1\angle 0.2)(z-1\angle -0.2)} \right)$