



PROBLEM:

For each of the system functions listed on the left, find the corresponding impulse response or difference equation on the right, and enter the number in the answer box:

System Function

(a) $H(z) = 1 - z^{-2}$

ANS =

(b) $H(z) = \frac{1}{1 - 0.2z^{-1}}$

ANS =

(c) $H(z) = \frac{z^{-2}}{1 + 0.2z^{-1}}$

ANS =

(d) $H(z) = 1 + 0.2z^{-1}$

ANS =

(e) $H(z) = \frac{1 + 0.2z^{-1}}{1 - z^{-1}}$

ANS =

Impulse Response or Difference Equation

1. $y[n] = -0.2y[n - 1] + x[n - 2]$

2. $h[n] = \delta[n] - \delta[n - 2]$

3. $h[n] = (0.2)^{n+2}u[n + 2]$

4. $h[n] = \delta[n] + 1.2u[n - 1]$

5. $y[n] = 0.2y[n - 1] + x[n]$

6. $h[n] = (-0.2)^n u[n]$

7. $y[n] = -y[n - 1] + x[n] + 0.2x[n - 1]$

8. $y[n] = x[n] + 0.2x[n - 1]$