

PROBLEM:

Pick the correct frequency response and enter the number in the answer box:

Difference Equation or Impulse Response

Frequency Response

(a) $h[n] = \delta[n - 1]$

ANS =

(b) $y[n] = x[n - 1] - x[n - 3]$

ANS =

(c) $h[n] = \delta[n] - \delta[n - 2]$

ANS =

(d) $y[n] = x[n] + x[n - 1] + x[n - 2]$

ANS =

1. $\mathcal{H}(\hat{\omega}) = 1 - e^{-j2\hat{\omega}}$

2. $\mathcal{H}(\hat{\omega}) = 2je^{-j2\hat{\omega}} \sin(\hat{\omega})$

3. $\mathcal{H}(\hat{\omega}) = 2e^{-j2\hat{\omega}} \cos(\hat{\omega})$

4. $\mathcal{H}(\hat{\omega}) = e^{-j\hat{\omega}}(1 + 2 \cos(\hat{\omega}))$

5. $\mathcal{H}(\hat{\omega}) = \frac{\sin \hat{\omega}}{\sin(\frac{1}{2}\hat{\omega})}$

6. $\mathcal{H}(\hat{\omega}) = e^{-j\hat{\omega}}$