A memory so IIR

B $z[n] = x[n] - z[n-1] - z[n-2]$

$$y[n] = z[n] - 2z[n-1] + z[n-2]$$

$$Z[z] = X[z] - z^{-1}Z[z] - z^{-2}Z[z]$$

$$Y[z] = Z[z] - 2z^{-1}Z[z] + z^{-2}Z[z]$$

$$\frac{X[z]}{Z[z]} = \left(1 + z^{-1} + z^{-2}\right)$$

$$\frac{Y[z]}{Z[z]} = \left(1 - 2z^{-1} + z^{-2}\right)$$

$$\frac{Y[z]}{X[z]} = \frac{1 - 2z^{-1} + z^{-2}}{1 + z^{-1} + z^{-2}}$$

$$\boxed{y[n] + y[n-1] + y[n-2] = x[n] - 2x[n-1] + x[n-2]}$$

C $y[n] = x[n] - 2x[n-1] + x[n-2] - y[n-1] - y[n-2]$

$y[0] = 1 + 0$

$y[1] = 0 - 2 \cdot 1 + 0 - 1 + 0$

$y[1] = -3$

$y[2] = 0 + 0 + 1 + 3 - 1$

$y[2] = +3$

$y[3] = 0 + 0 + 0 - 3 + 3$

$y[3] = 0$

$y_{0 \to 3} = [1, -3, +3, 0]$

D sub $z = 1$

$$= \frac{1 - 2 + 1}{1 + 1 + 1} = \frac{0}{3} = 0 \quad \text{or} \quad -\infty \text{ dB}$$

E sub $z = e^{i\pi} = -1$

$$= \frac{1 + 2 + 1}{1 - 1 + 1} = \frac{4}{1} \quad \text{or} \quad +6 \text{ dB}$$