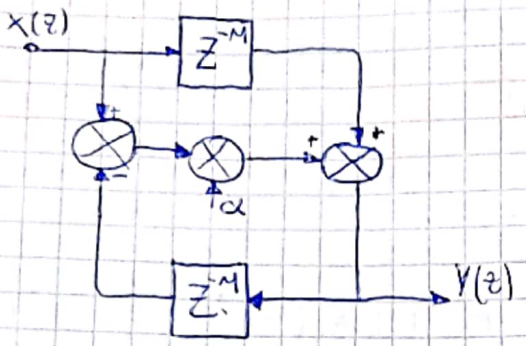
Ejercicio #2 TS7

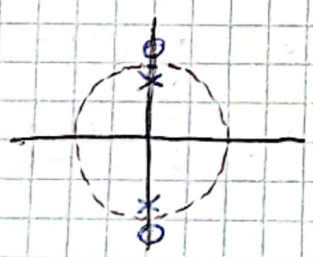


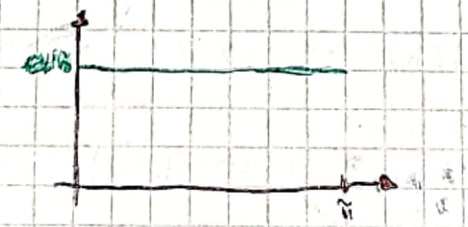
$$Y(z) = \alpha\left(X(z) + Y(z)z^{-M}\right) + X(z)\cdot z^{-M}$$

$$Y(z)\left(1+\alpha z^{-M}\right) = X(z)\left(\alpha + z^{-M}\right)$$

$$Y(z)\frac{z^M+\alpha}{z^M} = X(z)\left(\frac{\alpha z^M+1}{z^M}\right) \Rightarrow H(z) = \frac{\alpha z^M+1}{z^M+\alpha}$$

$$H(z)\Big|_{\substack{M=2\\ \alpha=0,8}} = \frac{0,8z^2+1}{z^2+0,8} = \frac{(z-1,118\,j)(z+1,118j)}{(z-0,894j)(z+0,894j)}$$





$$H(z) = \frac{0,8e^{j2\pi}+1}{e^{j2\pi}+0,8} =$$