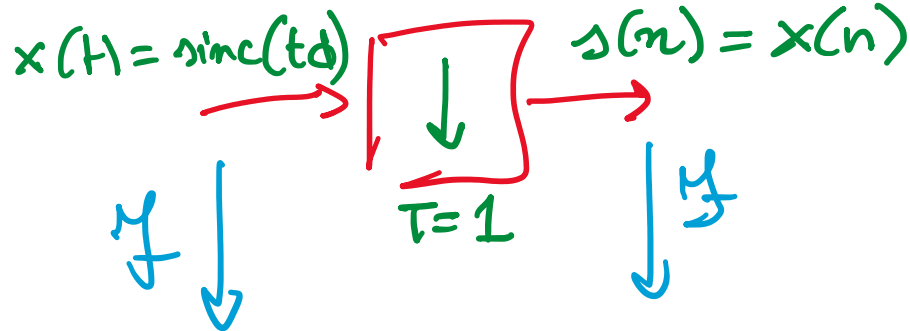
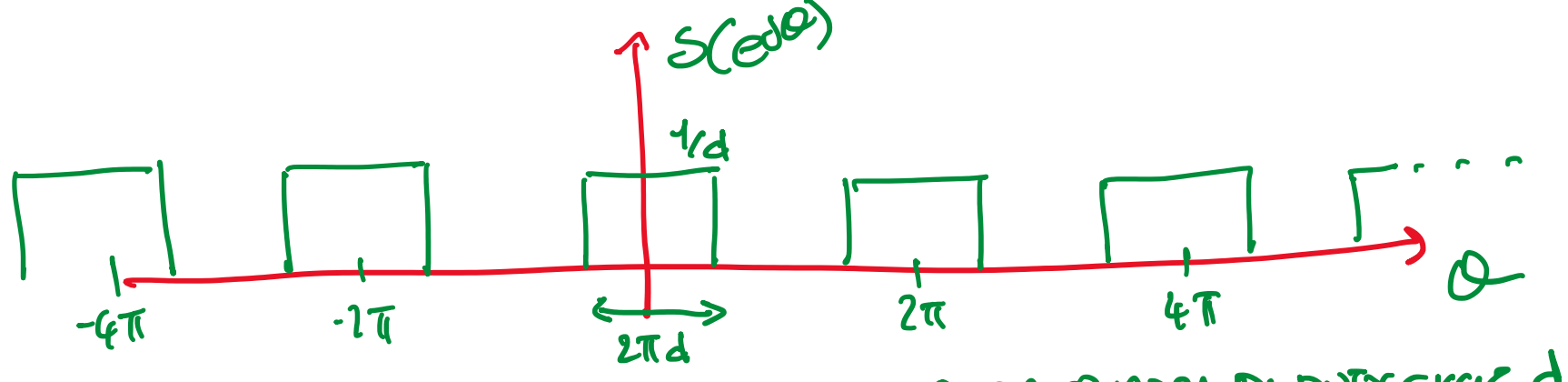
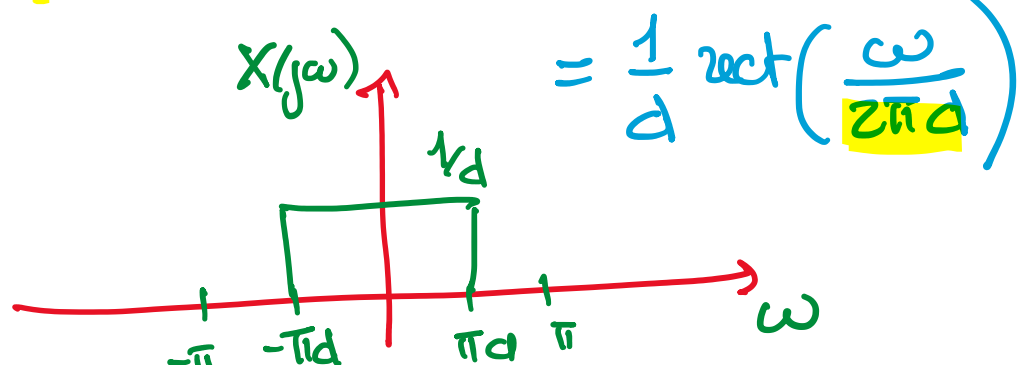


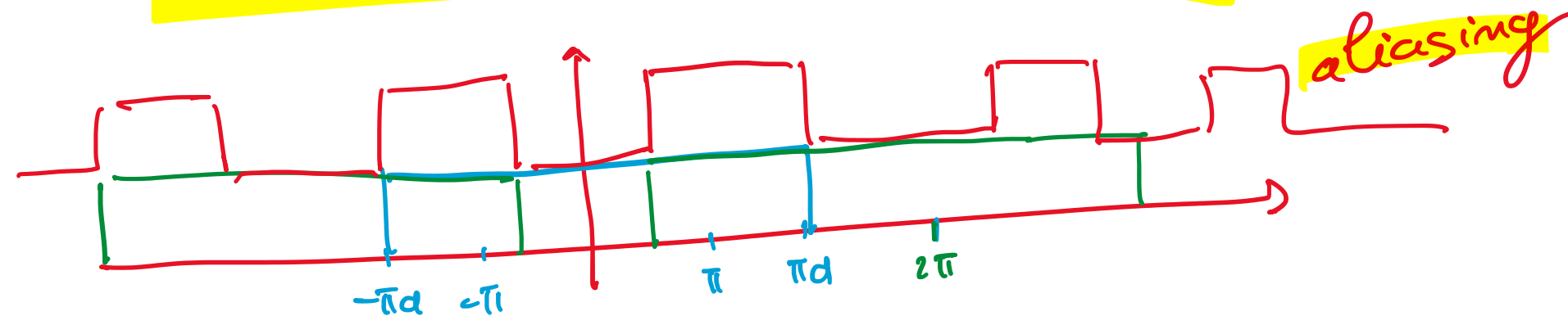
ES1 TROVARE $S(e^{j\omega})$ PER $s(n) = \text{sinc}(nd)$ $0 < d < 1$



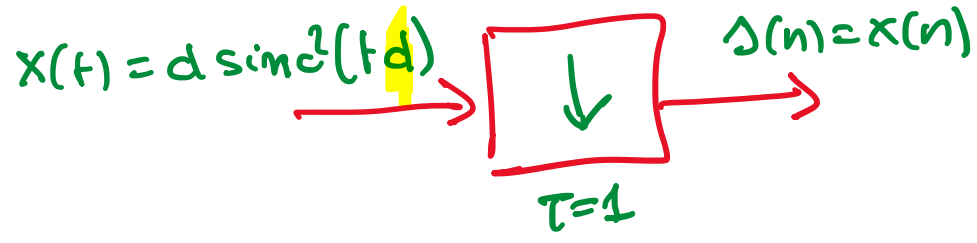
$$x(t) = \text{sinc}\left(\frac{t}{1/d}\right) \xrightarrow{\mathcal{F}} X(j\omega) = \frac{1}{d} \text{rect}\left(\frac{\omega}{2\pi d}\right)$$



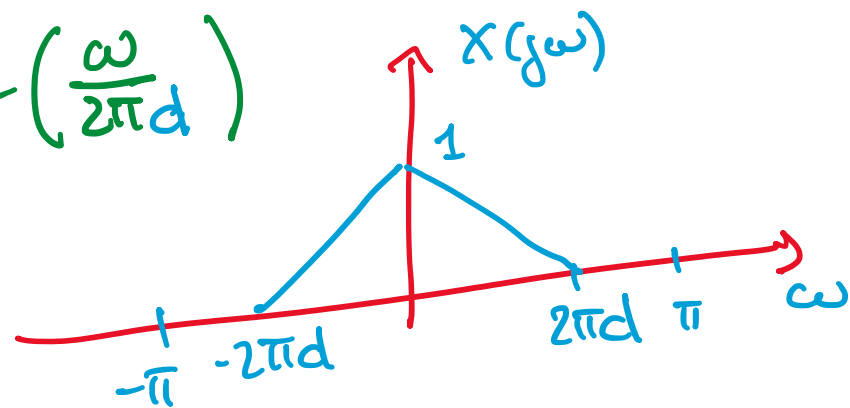
$$d \text{sinc}(nd) \xrightarrow{\mathcal{F}} \text{rep}_{2\pi} \text{rect}\left(\frac{\omega}{2\pi d}\right)$$



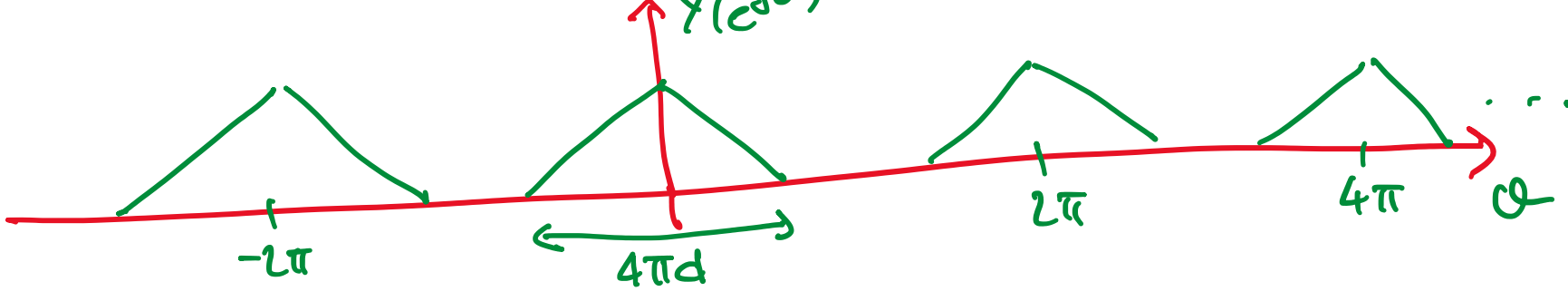
ES2 $s(n) = d \text{sinc}^2(nd)$ $d < 1/2$



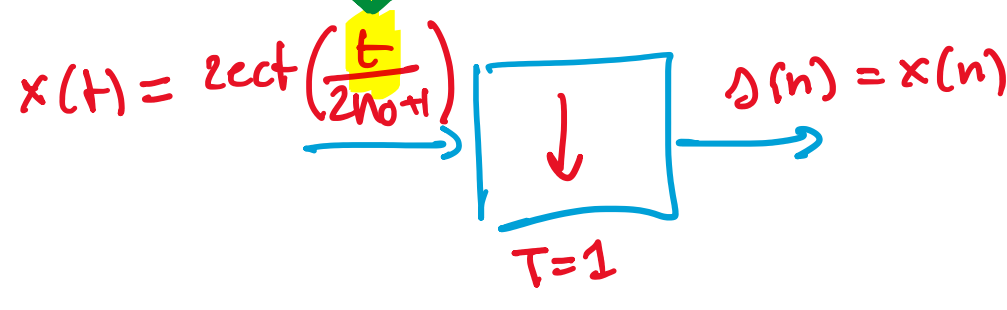
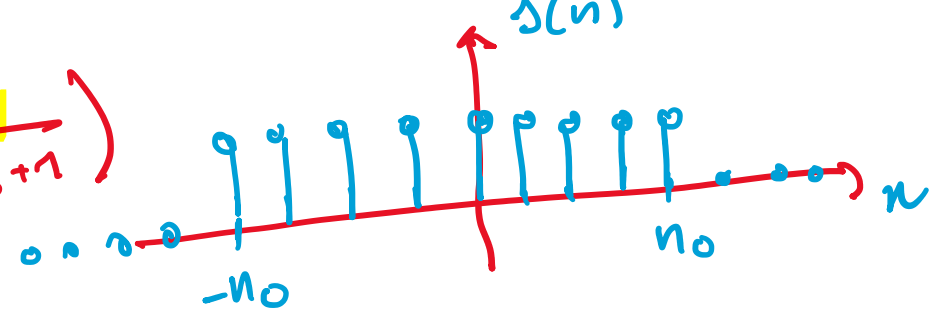
$$X(j\omega) = \frac{1}{d} \text{triangle}\left(\frac{\omega}{2\pi d}\right)$$



$$Y(e^{j\omega}) = \text{rep}_{2\pi} \text{triangle}\left(\frac{\omega}{2\pi d}\right)$$

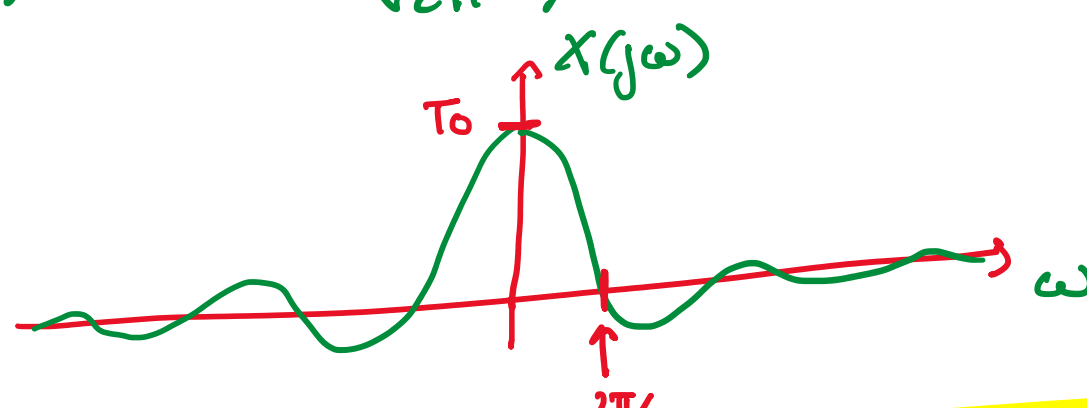


ES3 $s(n) = \text{rect}\left(\frac{n}{2n_0+1}\right)$

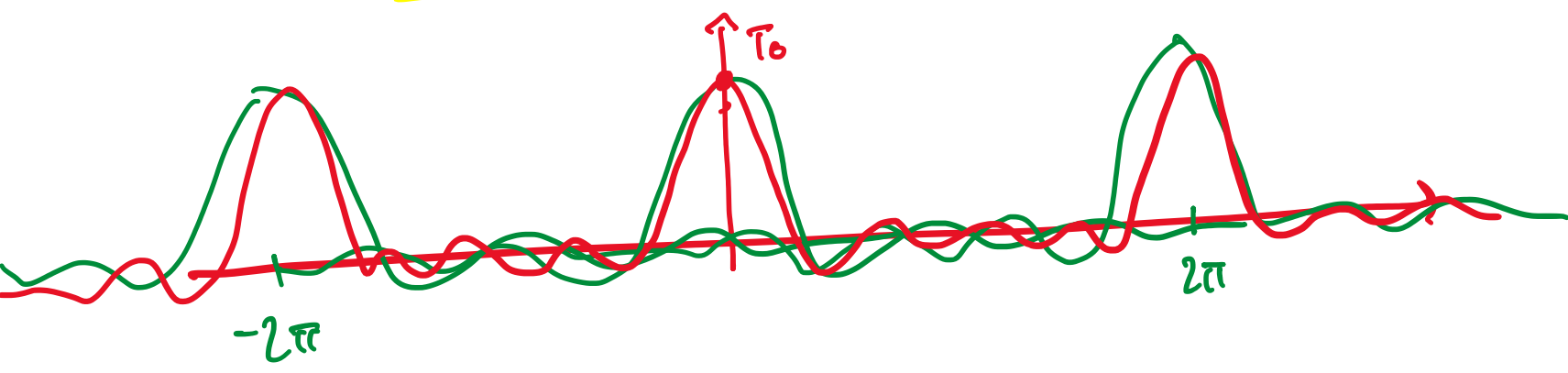


$$x(t) = \text{rect}\left(\frac{t}{T_0}\right) \quad T_0 = 2n_0 + 1$$

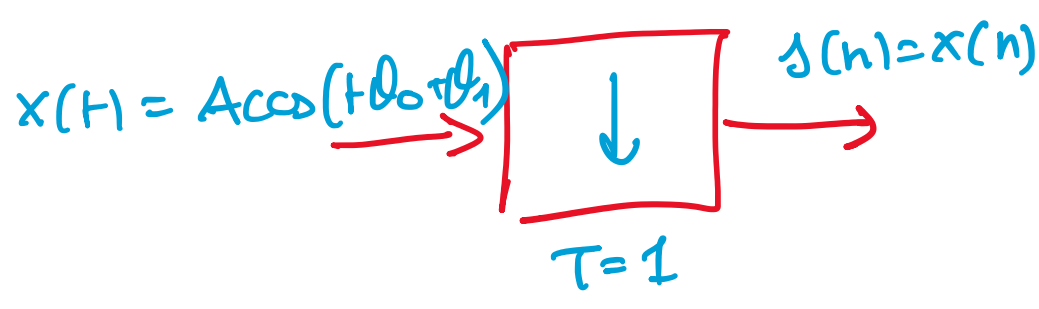
$$X(j\omega) = T_0 \text{sinc}\left(\frac{\omega T_0}{2\pi}\right) = T_0 \text{sinc}\left(\frac{\omega}{2\pi/T_0}\right)$$



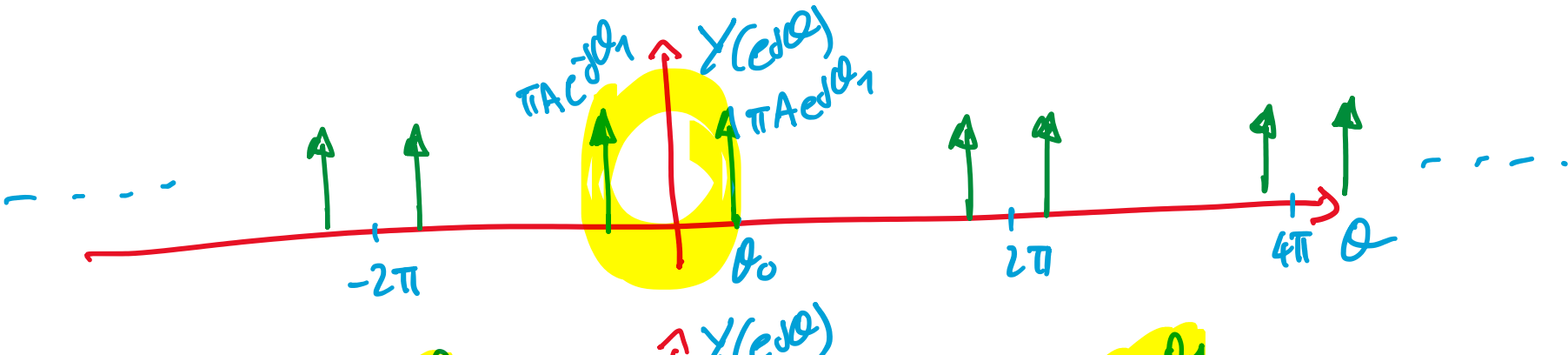
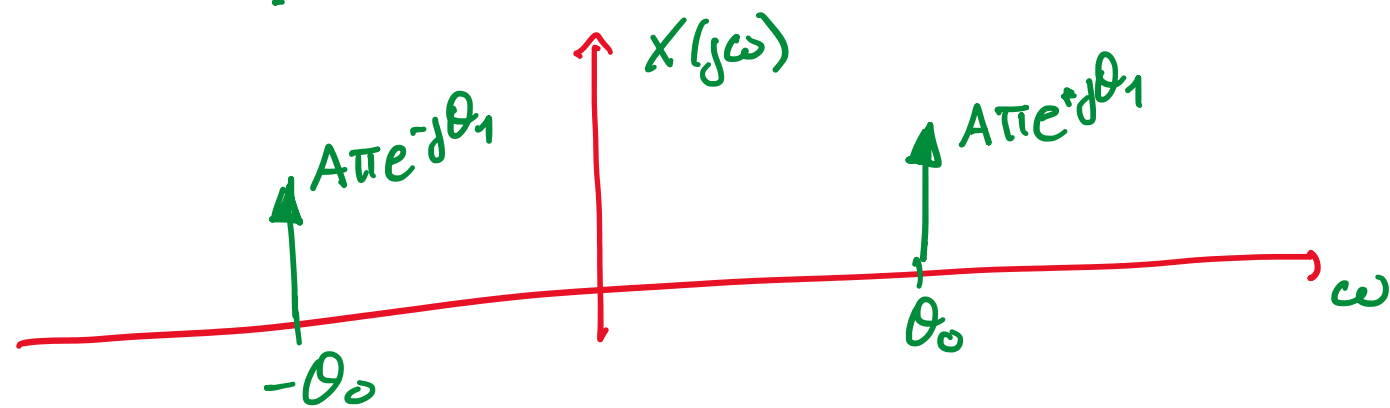
$$S(e^{j\omega}) = \text{rep}_{2\pi} T_0 \text{sinc}\left(\frac{\omega}{2\pi/T_0}\right) \quad T_0 = 1 + 2n_0$$



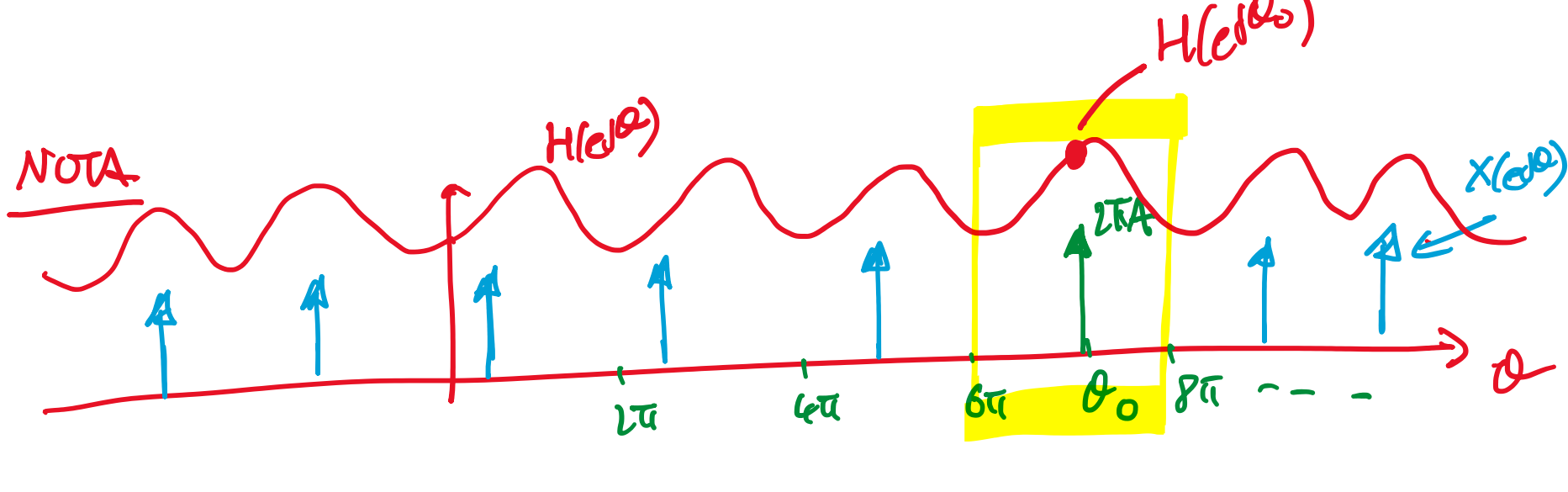
$$s(n) = A \cos(n\theta_0 + \theta_1) = \frac{A}{2} e^{j\theta_1} e^{jn\theta_0} + \frac{A}{2} e^{-j\theta_1} e^{-jn\theta_0}$$



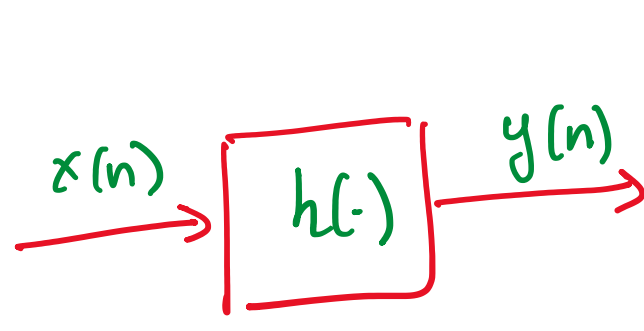
$$X(j\omega) = \frac{A}{2} e^{j\theta_1} 2\pi \delta(\omega - \theta_0) + \frac{A}{2} e^{-j\theta_1} 2\pi \delta(\omega + \theta_0)$$



NOTA



ES5



$$x(n) = \cos(n) + \sin(3n) + e^{-j6n}$$

FILTRO PASSABASSO IDEALE $\theta_c = \pi/2$

$$y(n) = ?$$

$$y(n) = |H(e^{j1})| \cos(n + \angle H(e^{j1})) + |H(e^{j3})| \sin(3n + \angle H(e^{j3})) + H(e^{j6}) e^{-j6n}$$

$$\theta = 1$$

$$\theta = 3$$

$$\theta = -6$$