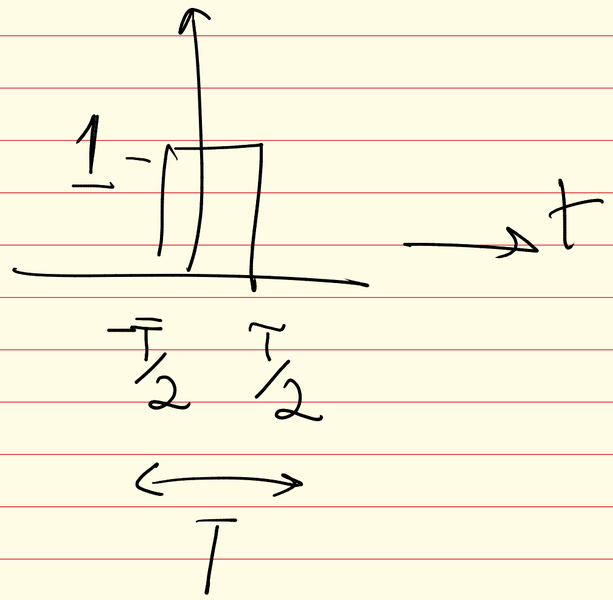


$$\int_{-\infty}^{\infty} x(t)\, e^{-j\omega t}\, dt \qquad \Rightarrow$$

$$\int_{-T/2}^{T/2} 1 \cdot e^{-j\omega t}\, dt = \frac{1}{-j\omega}\left[e^{-j\omega T/2} - e^{+j\omega T/2} \right]$$

$$\frac{1}{j\omega}\left[e^{j\omega T/2} - e^{-j\omega T/2} \right]$$

$$\frac{2}{\omega}\left[\frac{e^{j\omega T/2} - e^{-j\omega T/2}}{2j} \right]$$

$$\frac{2\sin(w/2)}{w}$$

$$= \frac{\tilde{T}\sin(wT/2)}{\frac{wT}{2}} \rightleftharpoons c\cdot\frac{\sin(xy)}{y}$$

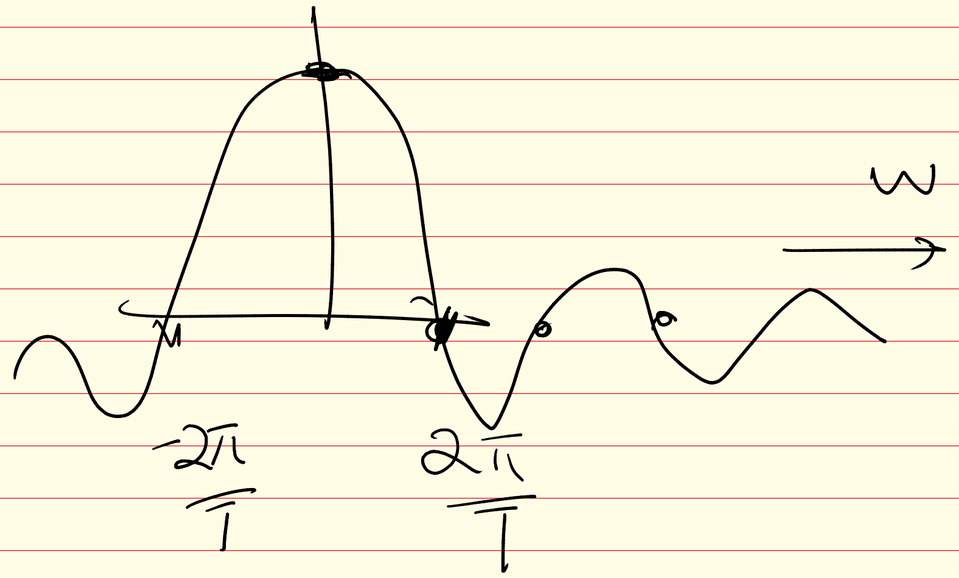
L'Hopi

$$= \tilde{T}\,\mathrm{sinc}\left(\frac{wT/2}{}\right)$$

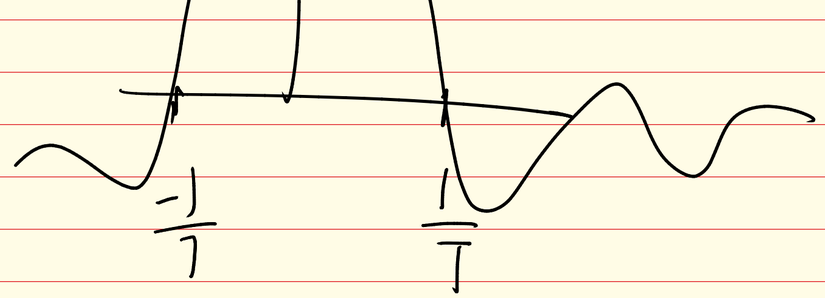
$$\pm n\pi = \frac{wT}{2} \quad (n \neq 0)$$

$$\Rightarrow \frac{wT}{2} = \pi$$

$$w = \frac{2\pi}{T}$$



$$f = \frac{w}{2\pi}$$


-1
T
1
T