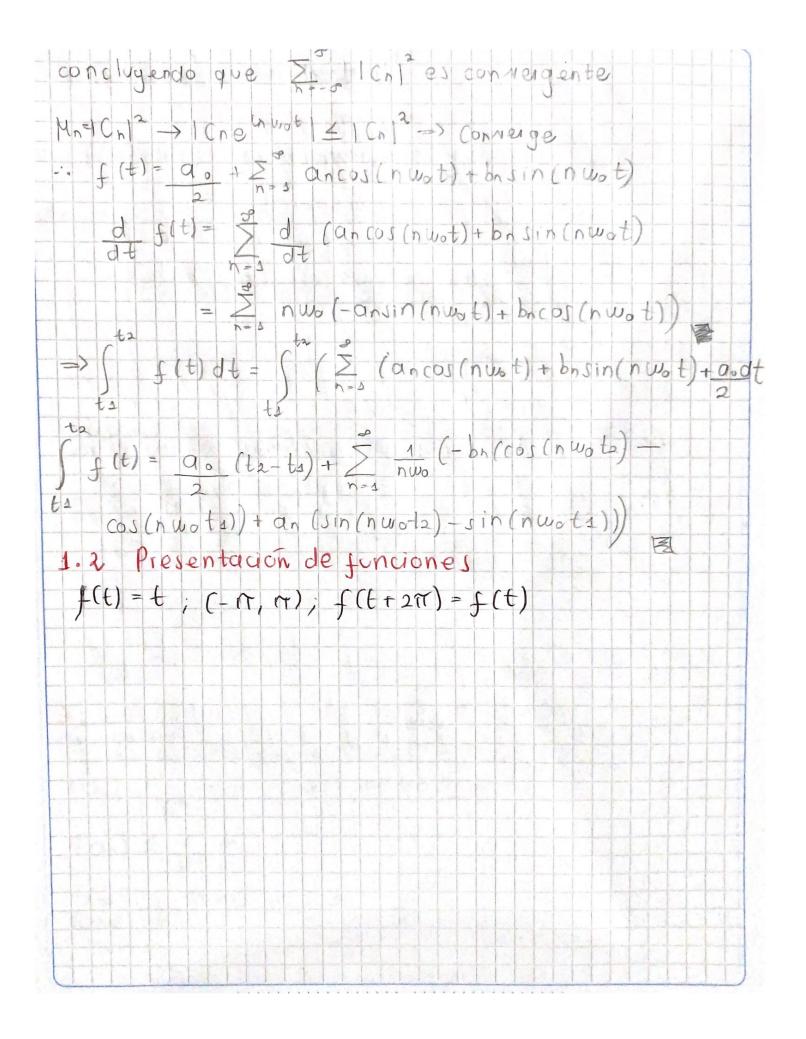
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1.1 Series de Fourier
Trimero queremos mostrar que la sumatoria
E ancos (nwot) + on sin (nwot)
converge uniformemente. Para esta necesitamos que
19n(t)/2 Mn + 4n 21
donde & Mn converge.
f(t)= 5 cre inwot converge
Se tiene que $f(t) = \sum_{n=-\infty}^{\infty} c_n e^{inwot} + \sum_{n=-\infty}^{\infty} c_n e^{inwot}$
= SC(+n)e + SCne
$= Co + \sum_{n=0}^{\infty} C(-n)e^{-inwot} + \sum_{n=0}^{\infty} Cne^{-inwot}$
Entonces gn(t) = (neinwot -> 1gn(t) = Cn
Pero sabemos que (n = 1 57/2 f (t) e-invot dt, que
se trata de una integral convergente y acotada.
Por el tearema de Parseval
$Cn = \frac{1}{t} \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} f(t)e^{-ih\omega_0 t} dt \leq \frac{1}{t} \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} f(t)e^{-ih\omega_0 t} dt$
$ \leq 1 \int_{-1/2}^{1/2} f(t) dt \leq 1 \int_{-1/2}^{1/2} f(t) ^2 dt $



• Oh =
$$\frac{1}{11} \int_{-1}^{11} t \, dt = \frac{1}{11} \int_{-1}^{11} t \, dt$$

