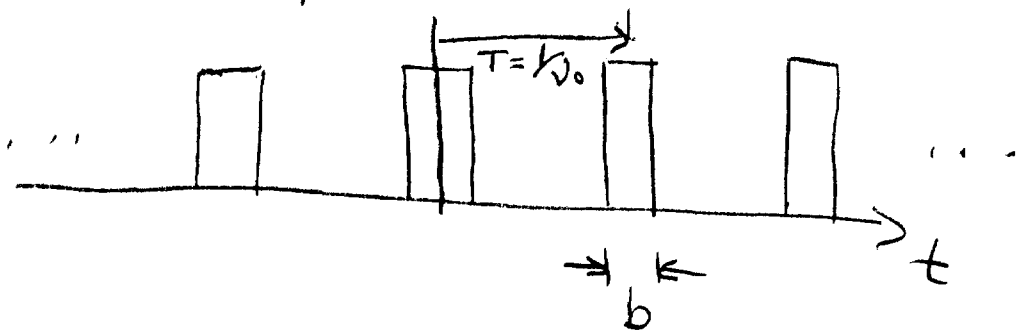
8.1 For a pulse train:



you showed in assignment question 3.1 that

$$D_n = h b \nu_0 \operatorname{sinc}(\pi n b \nu_0) = D_{-n}$$

for $f(t)$ = pulse train $= \sum_{n=-\infty}^{\infty} D_n e^{2\pi i n \nu_0 t}$

(a) What is $f(t)$ in the frequency domain, $F(\nu)$, ie what is F.T $\{f(t)\}$? Sketch.

(b) What is $F(\nu)$ when the pulse train is modulated by a carrier signal $\cos 2\pi \nu_c t$?

[Hint: you might find the graphical approach to convolution handy here.]