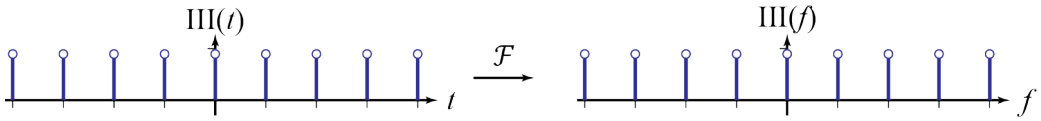
TOOL: The Fourier transform of an impulse train (or comb function), III(t), is an impulse train (or comb) function in the frequency domain, III(f):

$$\mathcal{F}\{\text{III}(t)\} = \int_{-\infty}^{\infty} \text{III}(t) e^{-j2\pi f t} dt = \text{III}(f)$$



where the impulse train (or comb function) is defined as unit-area impulses at integer times.

$$\text{III}(t) = \sum_{n=-\infty}^{\infty} \delta(t - n)$$