Identidad de Euler:

$$e^{jx} = cosx + jsenx \tag{1}$$

Progresion Geometrica:

$$\sum_{k=0}^{n} ar^k = a\frac{1-r^{n+1}}{1-r} \tag{2}$$

$$\sum_{k=m}^{n} ar^k = a\frac{r^m - r^{n+1}}{1-r} \tag{3}$$

$$\sum_{k=0}^{\infty} ar^k = \frac{a}{1-r} \wedge |a| < 1 \tag{4}$$

Pulso rectangular no centrado: $x(n) = x(n+N)$ y

$$x(n) = \begin{cases} 1 & \text{si } 0 \leq n < N_1 \\ 0 & \text{si } N1 \leq n < N \end{cases} \tag{5}$$

$$a_k = e^{-j\frac{2\pi}{N}k\frac{N_1-1}{2}} \frac{sen(\frac{2\pi}{N}k\frac{N_1}{2})}{sen(\frac{2\pi}{N}k\frac{1}{2})} \tag{6}$$

$$x(n) = \begin{cases} 1 & \text{si } 0 \leq n < N_1 \\ 0 & \forall \text{ otro } n. \end{cases} \tag{7}$$

$$X(\Omega) = e^{-j\Omega\frac{N_1-1}{2}} \frac{sen(\Omega\frac{N_1}{2})}{sen(\frac{\Omega}{2})} \tag{8}$$

Formula de la exponencial:

$$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} \tag{9}$$

Convolucion:

$$y(n) = \sum_{k=-\infty}^{\infty} x(k)h(n-k) \tag{10}$$

$$y(t) = \int_{-\infty}^{\infty} x(\tau)h(t-\tau)d\tau \tag{11}$$