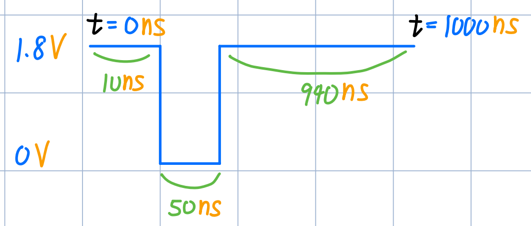
$$x(t) = \sum_{n=-\infty}^{\infty} X_n \times e^{jn\omega_0 t}, \quad t_0 \le t < t_0 + T_0$$

$$X_n = \frac{1}{T_0} \times \int_{t_0}^{t_0+T_0} x(t) \times e^{-jn\omega_0 t}\, dt$$

$$x(t) = X_0 + \sum_{n=1}^{\infty} A_n \times \cos(n\omega_0 t) + \sum_{n=1}^{\infty} B_n \times \sin(n\omega_0 t)$$

$$A_n = \frac{2}{T_0} \times \int_{t_0}^{t_0+T_0} x(t) \times \cos(n\omega_0 t)\, dt$$

$$B_n = \frac{2}{T_0} \times \int_{t_0}^{t_0+T_0} x(t) \times \sin(n\omega_0 t)\, dt$$



$$X_0 = \frac{1}{1000\,ns} \times \int_{0\,ns}^{1000\,ns} x(t)\, dt = \frac{1}{1000\,ns} \times 950\,ns \times 1.8\,V = 1.71\,V$$

$$A_n = \frac{2}{1000\,ns} \times \left\{ \int_{0\,ns}^{10\,ns} 1.8\,V \times \cos(n\omega_0 t)\, dt + \int_{60\,ns}^{1000\,ns} 1.8\,V \times \cos(n\omega_0 t)\, dt \right\}$$

$$= \frac{2}{1000\,ns} \times \left\{ 1.8\,V \times \frac{\sin(0.02n\pi)}{n\omega_0} - 1.8\,V \times \frac{\sin(0.12n\pi)}{n\omega_0} \right\}$$

$$= \frac{1.8\,V}{n\pi} \times \left[\sin(0.02n\pi) - \sin(0.12n\pi) \right]$$

$$B_N = \frac{3.6\,V}{1000\,ns} \times \left\{ \int_{0\,ns}^{10\,ns} \sin(n\omega_0 t)\, dt + \int_{60\,ns}^{1000\,ns} \sin(n\omega_0 t)\, dt \right\}$$

$$= \frac{1.8\,V}{n\pi} \times \left[\cos(0.12n\pi) - \cos(0.02n\pi) \right]$$