$$v = \lambda f$$

$$\omega = 2\pi f$$

$$k = \frac{2\pi}{\lambda}$$

$$f = \frac{1}{T}$$

$$y(x,t) = y_m \sin(kx \mp \omega t + \phi)$$

$$s(x,t) = s_m \cos(kx \mp \omega t)$$

$$\Delta p(x,t) = \Delta p_m \ \sin(kx \mp \omega t)$$

$$\Delta p_m = (\rho v \omega) s_m$$

$$v = \sqrt{\frac{\tau}{\mu}}$$

$$v = \sqrt{\frac{B}{\rho}}$$

$$\frac{\Delta L}{\lambda} = \frac{\phi}{2\pi}$$

$$\beta = (10dB) \log \frac{I}{I_0}$$

$$I_0 = 10^{-12} \frac{W}{m^2}$$

$$\bar{P} = \frac{1}{2} \mu v \omega^2 y_m^2$$

$$I = \frac{1}{2} \rho v \omega^2 s_m^2$$

$$I = \frac{P}{A}$$

$$f' = f \frac{v \pm v_D}{v \mp v_F}$$

$$f_{bat} = f_1 - f_2$$

$$\sin A + \sin B = 2 \cos \frac{1}{2}(A - B) \sin \frac{1}{2}(A + B)$$