Physics 104 Exam 1 Equations

$$v = f\lambda$$

$$f_n = n\left(\frac{v}{2L}\right), \quad n = 1, 2, 3...$$

$$f_n = n\left(\frac{v}{4L}\right), \quad n = 1, 3, 5...$$

$$\text{Sound Power Level} = (10\,\text{dB})\log\left(\frac{W}{W_0}\right), \quad W_0 = 10^{-12}\,\text{Watts}$$

$$\text{Sound Intensity Level} = (10\,\text{dB})\log\left(\frac{I}{I_0}\right), \quad I_0 = 10^{-12}\,\text{W/m}^2$$

$$f = \frac{v}{2}\sqrt{\left(\frac{n_x}{L_x}\right)^2 + \left(\frac{n_y}{L_y}\right)^2 + \left(\frac{n_z}{L_z}\right)^2}$$

$$v_{20^\circ C} = 344\frac{m}{s}$$

$$f = \frac{1}{2\pi}\sqrt{\frac{K}{m}}$$

$$f = \frac{1}{2\pi}\sqrt{\frac{1}{compliance \times m}}$$