

$$v = \frac{\Delta x}{\Delta t} \quad a = \frac{v_f - v_i}{\Delta t} \quad x_f = x_i + v_i \Delta t + \frac{1}{2} a \Delta t^2$$

$$2a \Delta x = v_f^2 - v_i^2 \quad F = ma \quad \mu = \frac{|F_f|}{|F_N|} \quad p = mv$$

$$a_c = \frac{v^2}{r} \quad C = 2\pi r \quad F_g = -G \frac{m_1 m_2}{r^2} \quad T = \frac{1}{f}$$

$$G = 6.67 \times 10^{-11} \text{ Nm}^2 / \text{ kg}^2 \quad T = 2\pi \sqrt{\frac{l}{g}}$$

$$W = Fd \quad P = \frac{w}{t} \quad U = mgh \quad K = \frac{1}{2} mv^2$$

$$F_e = k \frac{q_1 q_2}{r^2} \quad F = qE \quad E = \frac{V}{s} \quad q = CV$$

$$V = \frac{w}{q} \quad E = IR \quad V \approx IR \quad P = VI$$

$$P = I^2 R \quad R = \rho \frac{l}{A} \quad v = f\lambda$$

$$f_o = f_s \frac{v}{v \pm v_s} \quad \frac{1}{f} = \frac{1}{d_o} + \frac{1}{d_i} \quad n = \frac{c}{v}$$

$$m = \frac{|d_i|}{|d_o|} = \frac{|s_i|}{|s_o|} \quad n_1 \sin \phi_1 = n_2 \sin \phi_2$$