$$\tau = rF\sin\theta \qquad \rho_{water} = 1000kg/m^3 \qquad L = mrv$$

$$\sum F_x = 0 \qquad \sum F_y = 0 \qquad \sum \tau = 0$$

$$\tau = I\alpha \qquad L = I\omega \qquad F = G\frac{m_1 m_2}{r^2}$$

$$G = 6.67 \times 10^{-11}\ Nm^2/kg^2 \qquad g = \frac{GM}{R^2} \qquad U = -G\frac{m_1 m_2}{r}$$

$$v_e = \sqrt{\frac{2GM}{R}} \qquad KE = (1/2)mv^2$$

$$f = 1/T \qquad \omega = 2\pi f \qquad x = A\cos(\omega t)$$

$$v = -A\omega\sin(\omega t) \qquad a = -A\omega^2\cos(\omega t) \qquad \omega = \sqrt{k/m}$$

$$E = \tfrac{1}{2}kA^2 \qquad T = 2\pi\sqrt{L/g} \qquad A = A_0 e^{-bt/2m}$$

$$v = \lambda f \qquad I = P/A \qquad I = P/(4\pi r^2)$$

$$\beta = 10\log(I/I_0) \qquad I = I_0 10^{(\beta/10)} \qquad I_0 = 10^{-12}\ W/m^2$$

$$f' = (\tfrac{1\pm u_o/v}{1\mp u_s/v})f \qquad \rho = M/V \qquad P = F/A$$

$$P_g = P - P_{atm} \qquad P = P_{atm} + \rho gh \qquad V_{sub} = V_s(\rho_s/\rho_f)$$

$$1\ atm = 1.01 \times 10^5\ Pa$$