Physics Formulas (2nd Semester, 2017-2018)

$s = \theta r$ $v = \omega r$ $a = \alpha r$

$\omega = \frac{\Delta\theta}{\Delta t}$ $\alpha = \frac{\Delta\omega}{\Delta t}$

$\theta = \omega_o t + \frac{1}{2}\alpha t^2$ $\omega^2 = \omega_o^2 + 2\alpha(\theta_f - \theta_i)$ $\omega = \omega_o + \alpha t$

$\tau = rF = I\alpha$ $L = rp = rmv$ $L = I\omega$ $L_i = L_f$ $I_i\omega_i = I_f\omega_f$

$KE_{rot} = \frac{1}{2}I\omega^2$ $KE_{trans} = 1/2mv^2$ $PE_{grav} = mgh$ $PE_i + KE_i = PE_f + KE_f$

$p = mv$ $F\Delta t = \Delta p$ $P_i = P_f$ $m_1v_1 + m_2v_2 = m_1v_1' + m_2v_2'$

$q_{electron} = -1.6 \times 10^{-19} C$ $F_e = \frac{kq_1q_2}{r^2}$ $E = \frac{kQ}{r^2}$ $F = qE$ $k = 8.99 \times 10^9 Nm^2/C^2$

$a = \frac{qE}{m}$ $F = ma$ $w = mg$ $v = v_0 + at$ $v_f^2 = v_0^2 + 2ax$ $F_{centripetal} = mv^2/r$

$R = \rho L/A$ $V = IR$ $P = VI$ $I = \Delta Q/\Delta t$ $Q_{electron} = 1.6 \times 10^{-19} C$

$f = \frac{1}{T}$ $v = \lambda f$ $V_{sound\ in\ air} \approx 331.4 + 0.6T_C$ $d = vt$ $f_o = f_s\frac{v \pm v_o}{v \pm v_s}$

$v_{medium} = \frac{c}{n}$ $c = 3.00 \times 10^8\ m/s$ $n_1 \sin\theta_1 = n_2 \sin\theta_2$