Equations for Regular Physics

$v = at + v_o$ $\quad x = \frac{1}{2}at^2 + v_o t + x_o$ $\quad v^2 = v_o{}^2 + 2a(x - x_o)$

$\Sigma F = ma$ $\quad F_{AB} = -F_{BA}$

$F_g = mg$ $\quad g \approx 10\ m/s^2$

$F_s = kx$

$a_c = \frac{v^2}{r}$ $\quad \Sigma F_c = \frac{mv^2}{r}$ $\quad v = 2\pi r\left(\frac{rev}{s}\right)$

$E_1 + W = E_2$ $\quad W = Fd$

$PE_g = mgh$ $\quad KE = \frac{1}{2}\, mv^2$ $\quad PE_e = \frac{1}{2}\, kx^2$ $\quad P = \frac{W}{t}$

$p = mv$ $\quad m_1v_{1o} + m_2v_{2o} = m_1v_1 + m_2v_2$ $\quad Ft = m\Delta v$

$PV = nRT$

$T_F = T_C\frac{9}{5} + 32$ $\quad T_C = (T_F - 32)\frac{5}{9}$ $\quad T_K = T_C + 273$

$\Delta U = Q - W$ $\quad W = P\Delta V$

$\Delta U_{cycle} = 0$ $\quad W = Q_h - Q_c$ $\quad e = \frac{W}{Q_h}$ $\quad e_{\max} = 1 - \frac{T_c}{T_h}$

$F_e = \frac{kq_1q_2}{d^2}$ $\quad k = 9x10^9\,\frac{Nm^2}{C^2}$ or $k = 90\,\frac{Ncm^2}{\mu C^2}$

$$E = \frac{F_e}{q} \qquad \Delta U = \Delta V q$$

$$\Delta V = Ed \qquad \Delta U = qEd$$

$$I = \frac{V}{R} \qquad P = \frac{E}{t} \qquad P = IV$$

$R_{eq,series} = R_1 + R_2 + R_3 + \ldots$ $\qquad R_{eq,parallel} = \left(\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \ldots \right)^{-1}$

$$I_{battery} = \frac{V_{battery}}{R_{eq}} \qquad \Sigma \Delta V_{loop} = 0 \qquad I_{in} = I_{out}$$

$$F_{mag} = BIL \qquad F_{mag} = Bvq$$

$$\varepsilon = -N \frac{\Delta \Phi}{\Delta t} \qquad \Phi = BA \qquad \varepsilon_{\max} = \omega NBA$$

$$\frac{V_p}{V_s} = \frac{N_p}{N_s}$$

$$v = \frac{d}{t} \qquad f\lambda = v \qquad v = \sqrt{\frac{T}{\mu}}$$