ส่วนที่ 1 สูตรที่อาจเป็นประโยชน์ในการคำนวณ

ประจุ e = -1.6×10^{-19} C $\quad \mu_0 = 4\pi \times 10^{-7}$ Wb/(A.m) $\quad k = \frac{1}{4\pi\varepsilon_0} = 9\times10^9 N.m^2/C^2$

$F = k\frac{q_1 q_2}{r^2} \qquad \vec{F} = q\vec{E}$

$E = \frac{F}{q_0} = k\frac{q}{r^2} \qquad \vec{E} = \vec{E}_1 + \vec{E}_2 + \vec{E}_3 + \ldots + \vec{E}_N = \sum_{i=1}^{N}\vec{E}_i$

$\Phi_E = \int \vec{E}\cdot d\vec{A} \qquad \Phi_E = \frac{q}{\varepsilon_0} \qquad V_P = \frac{U_P}{q_0} \qquad V = k\frac{q}{r} \qquad V = Ed \qquad U = \sum_{ij}\frac{kq_1q_2}{r_{ij}} : i \neq j$

$E_k = \frac{1}{2}mv^2 \qquad E_p = qV \qquad E = \frac{\sigma}{2\varepsilon_0}$

$C = \frac{\varepsilon_0 A}{d}, U = \frac{1}{2}CV^2 \qquad Q = CV$

$\frac{1}{C_s} = \frac{1}{C_1} + \frac{1}{C_2} \qquad C_P = C_1 + C_2 \qquad V = IR \qquad P = VI = I^2R$

$R = \rho\frac{\ell}{A} \qquad R_{eq} = R_1 + R_2 + R_3 + \ldots \qquad \frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \ldots$

$q = Q\left(1 - e^{-\frac{t}{RC}}\right) \qquad q = Qe^{-\frac{t}{RC}} \qquad \tau = RC \qquad R = R_0(1 + \alpha(T - T_0))$

$\vec{F} = q\vec{v}\times\vec{B} \qquad F = qvB\sin\theta$

$F_c = \frac{mv^2}{r} \qquad a_c = \frac{v^2}{r} \qquad r = \frac{mv}{qB}$

$d\vec{B} = k_m I\frac{d\vec{\ell}\times(\vec{r}-\vec{r}')}{|\vec{r}-\vec{r}'|^3} \qquad \int \vec{B}\cdot d\vec{l} = \mu_0 I \qquad \vec{B} = \frac{\mu_0 I}{2\pi R}\hat{\phi}$

$\vec{F} = I\vec{L}\times\vec{B}$