Formulário

$1\ \mathrm{eV} = 1.60 \times 10^{-19}\ \mathrm{C \cdot V} = 1.60 \times 10^{-19}\ \mathrm{J}$ $\quad k_e = 8.9875 \times 10^9\ \mathrm{N \cdot m^2/C^2}$ $\quad \mu_0 = 4\pi \times 10^{-7}\ \mathrm{T \cdot m/A}$

$\mathbf{F}_{12} = k_e \frac{q_1 q_2}{r^2}\hat{\mathbf{r}}$ $\quad k_e = \frac{1}{4\pi\epsilon_0}$ $\quad \mathbf{F}_e = q\mathbf{E}$ $\quad \mathbf{E} = k_e \frac{q}{r^2}\hat{\mathbf{r}}$

$x_f = x_i + v_i t + \frac{1}{2}at^2$

$\rho = \frac{Q}{V}$ $\quad \sigma = \frac{Q}{A}$ $\quad \lambda = \frac{Q}{\ell}$ $\quad \mathbf{F}_e = q\mathbf{E} = m\mathbf{a}$ $\quad v_f = v_i + at$

$\mathbf{E} = k_e \int \frac{dq}{r^2}\hat{\mathbf{r}}$ $\quad \Phi_E = EA$ $\quad \Phi_E = EA' = EA\cos\theta$ $\quad \Phi_E = \oint \mathbf{E}\cdot d\mathbf{A} = \oint E_n\, dA$ $\quad \Phi_E = \frac{q}{\epsilon_0}$

$\Delta V = \frac{\Delta U}{q_0} = -\int_A^B \mathbf{E}\cdot d\mathbf{s}$ $\quad E_x = -\frac{\partial V}{\partial x}$ $\quad E_y = -\frac{\partial V}{\partial y}$ $\quad E_z = -\frac{\partial V}{\partial z}$ $\quad V = k_e \frac{q}{r}$

$B = \frac{\mu_0 NI}{2\pi r}$ (toroid)

$B = \frac{\mu_0 I}{2\pi r}$ (B criado por um fio) $\quad B = \mu_0 \frac{N}{\ell} I = \mu_0 n I$ (solenoid) $\quad \mathcal{E} = -N\frac{d\Phi_B}{dt}$

$C = \frac{Q}{\Delta V}$ $\quad \Delta V = Ed = \frac{Qd}{\epsilon_0 A}$ $\quad C = \frac{\epsilon_0 A}{d}$ $\quad C = \kappa\frac{\epsilon_0 A}{d}$ $\quad U = \frac{Q^2}{2C} = \frac{1}{2}Q\,\Delta V = \frac{1}{2}C(\Delta V)^2$

$C_{\mathrm{eq}} = C_1 + C_2 + C_3 + \cdots$ (parallel combination)

$\frac{1}{C_{\mathrm{eq}}} = \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \cdots$ (series combination)

$I = \frac{dQ}{dt}$ $\quad \mathbf{J} = \sigma\mathbf{E}$ $\quad R = \rho\frac{\ell}{A}$ $\quad R_{\mathrm{eq}} = R_1 + R_2 + R_3 + \cdots$ $\quad \frac{1}{R_{\mathrm{eq}}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \cdots$

$i(t) = \frac{V_0}{R} e^{-\frac{t}{RC}}$ $\quad V_c(t) = V_0\left(1 - e^{-\frac{t}{RC}}\right)$