$$I = \frac{dQ}{dt}$$
$$I = nqv_d A$$
$$J = \frac{I}{A}$$
$$\mathbf{J} = \sigma \mathbf{E}$$
$$R = \frac{\Delta V}{I}$$
$$R = \rho \frac{l}{A}$$
$$P = I\Delta V = I^2 R$$
$$R_{\text{eq}} = R_1 + R_2 + R_3 + \ldots$$
$$\frac{1}{R_{\text{eq}}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \ldots$$
$$I_{\text{in}} = I_{\text{out}}$$
$$\sum \Delta V = 0$$
$$q(t) = Q\left(1 - e^{-t/RC}\right)$$
$$q(t) = Qe^{-t/RC}$$
$$\mathbf{F} = q\mathbf{v} \times \mathbf{B}$$
$$\mathbf{F} = I\mathbf{L} \times \mathbf{B}$$
$$d\mathbf{F} = Id\mathbf{s} \times \mathbf{B}$$
$$\boldsymbol{\mu} = I\mathbf{A}$$
$$\boldsymbol{\tau} = \boldsymbol{\mu} \times \mathbf{B}$$
$$U = -\boldsymbol{\mu} \bullet \mathbf{B}$$
$$d\mathbf{B} = \frac{\mu_o}{4\pi} \frac{Id\mathbf{s} \times \hat{\mathbf{r}}}{r^2}$$
$$\oint \mathbf{B} \bullet d\mathbf{s} = \mu_o I$$
$$\Phi_B = \oint \mathbf{B} \bullet d\mathbf{A}$$
$$\mathcal{E} = -\frac{d\Phi_{\text{B}}}{dt}$$
$$\mathcal{E} = \oint \mathbf{E} \bullet d\mathbf{s}$$