Ohm's Law

$$E=IR$$

$$I=\frac{E}{R} \quad R=\frac{E}{I}$$

Watt's Law

$$P=IE \quad P=I^2R$$

$$P=\frac{E^2}{R} \quad E=\sqrt{PR}$$

Alternating Current

$$E_{RMS}=\frac{1}{\sqrt{2}}E_P \qquad E_P=\sqrt{2}\,E_{RMS}$$

$$E_P=1/2\,E_{PP} \qquad E_{PP}=2E_P$$

Series & Parallel

$$N_{\text{Total}}=N_1+N_2+\cdots+N_n \qquad N_{\text{Total}}=\frac{1}{\frac{1}{N_1}+\frac{1}{N_2}+\cdots+\frac{1}{N_n}}$$

Transformers

$$\frac{E_P}{E_S}=\frac{N_P}{N_S}=a \qquad a=\sqrt{\frac{Z_P}{Z_S}}$$