DC Circuits: V = IR P = IV

AC Circuits: $\%Accuracy = \frac{Actual\ Value - Specified\ Value}{Specified\ Value} \times 100\%$

For a sine wave, $V_{peak} = \sqrt{2}\ V_{rms}$ $V_{L-L} = \sqrt{3} \times V_{L-N}$

$V = IZ$ $X_L = 2\pi fL$ $X_C = \frac{1}{2\pi fC}$ $Z = \sqrt{R^2 + (X_L - X_C)^2}$ $P = VI\cos\Theta = I^2R$

$$\cos\Theta = \frac{R}{Z} = \text{Power Factor} = \frac{\text{watts}}{\text{volt amperes}} = \frac{KW}{KVA}$$

Three-Phase Circuits: $VA = \sqrt{3}\ VI$ KW = KVA × Power Factor

Balanced Delta: Line Current = 1.732 Phase Current
Line Voltage = Phase Voltage

Balanced Wye: Line Current = Phase Current
Line Voltage = 1.732 Phase Voltage

Miscellaneous: $1\ HP = 746\ watts$ $Torque = \frac{33{,}000 \times HP}{6.28 \times rpm}$

$$R_{1000ft} = Measured\ Resistance \times \frac{Length\ of\ Run}{1000}$$

Capacitance: $C = VAR/2\pi fV^2$ $kVAR = \frac{kV^2 \times 1000}{X_c}$

Capacitor VAR conversion: $kVAR_1 = kVAR_2 \times (kV_1/kV_2)^2$

Resonance: $f = \left(\frac{1}{2\pi\sqrt{LC}}\right)$

Frequency: $f = {}^{P \times n_s}/_{120}$

For Watthour Meters: Watthour Constant kh, equals the number of watthours of energy represented by one revolution of the meter disk. When the meter is used with instrument transformers, the Primary Watthour Constant represents the energy measured in the primary circuit.