Electrical Exam Formulas

1) $P = I \times E$, $P(3\ Phase) = I \times E \times 1.73$

2) $E = I \times R$

3) $P = I \times E \times (Pf)$

4) $Vd = (2 \times K \times D \times I)/CM$

5) $Vd\ (3\ Phase) = (1.73 \times K \times D \times I)/CM$

6) Parallel Resistors

$$Rt = \frac{1}{1/R1+1/R2+\ldots 1/Rn}$$

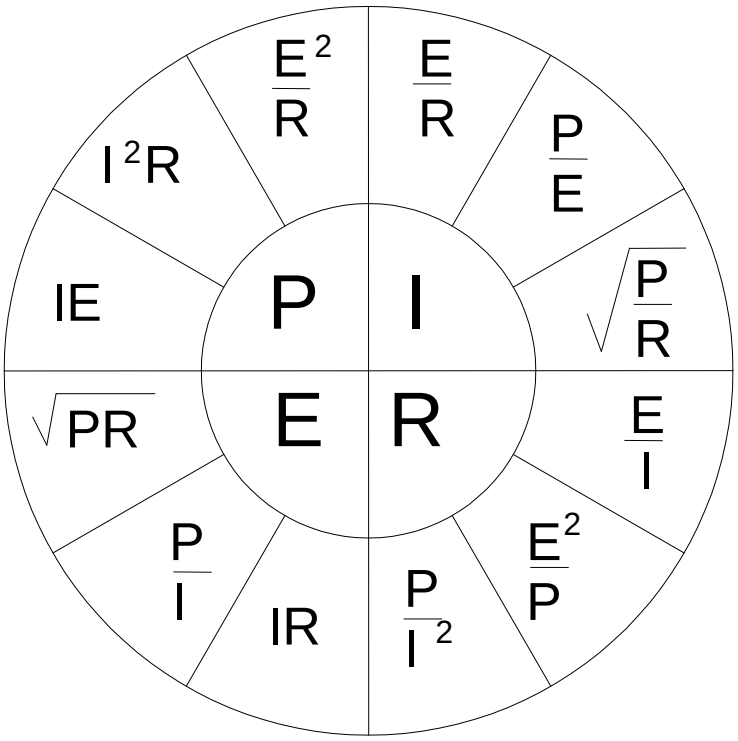
OR

$$Rt = \frac{R1 \times R2}{R1+R2}$$

7) Series Resistors

$$Rt = R1+R2+\ldots Rn$$

P= Power in watts
I=Current in amps
E=Voltage in volts
R=Resistance in ohms, Rt=Total resistance
Vd=Voltage drop in volts
Pf=Power factor
D=Distance (one way) in feet
CM=Circular mils of wire (Ch. 9, Table 8)
K=Resistance of a circular mil-foot (Approx. 12.9 for Cu, 21.2 for Al)
HP=746 Watts



1/8” Scale (1/8” = 1 Foot)