Electricity

Ohms Law

Voltage = elec. potential $= V = IR$ resistance

current

$$\text{Power} = P = IV$$

$$= \frac{V^2}{R} = \left(\frac{V}{R}\right) \cdot V$$

$$= I^2 R \quad (IR)I$$

$V = (V)$

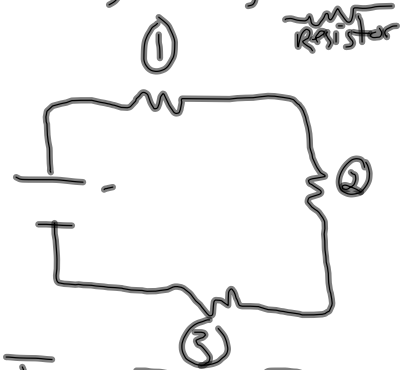
$I = (A)$

$R = (\Omega)$

$P = (W)$

Series

"Straight"



$I_1 = I_2 = I_3 = I$

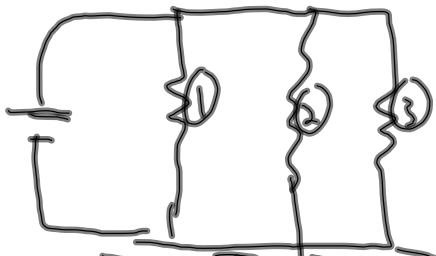
$R_{eq} = R_1 + R_2 + R_3$

$V_1 \neq V_2 \neq V_3$

$V = V_1 + V_2 + V_3$

Parallel

"Ladder"



$I = I_1 + I_2 + I_3$

$I_1 \neq I_2 \neq I_3$

$V_1 = V_2 = V_3 = V$

(Assuming $R_1 \neq R_2 \neq R_3$) $\frac{1}{R_{eq}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$