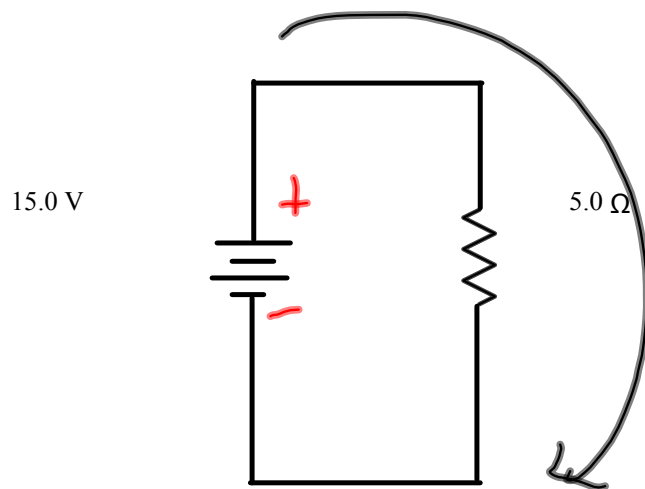


Electric Circuits:

Ohms Law:

$$V=IR$$

$$I = \frac{V}{R} = 3\text{a}$$



V = Voltage = DOP = ξ mf
Measured in Volts

R = Resistance
Measured in Ohms


I = Current
Measured in Amperes or amps

Series Circuits

Current is constant

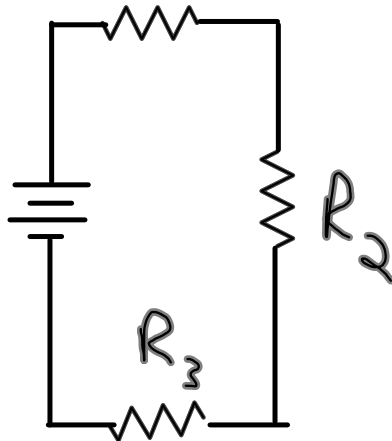
Resistance is additive

$$R_T = R_1 + R_2 + R_3$$

$$V_T = V_1 + V_2 + V_3$$

$$R_1 = R_2 = R_3 = 1\Omega \quad R_1 \quad I_T = I_1 = I_2 = I_3$$

$$R_T = 3\Omega$$



Parallel Circuits

Voltage is constant

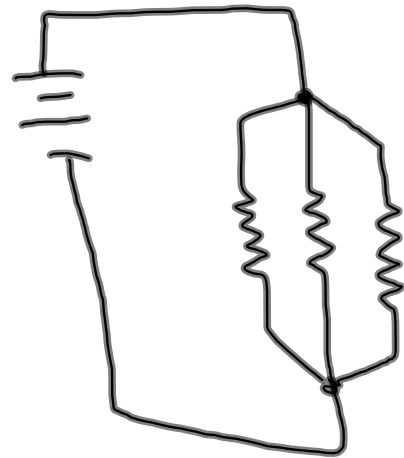
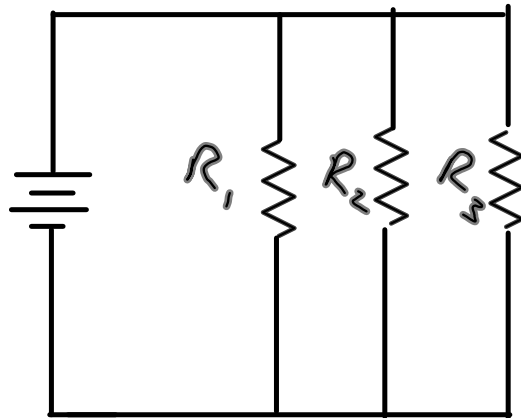
Current is additive

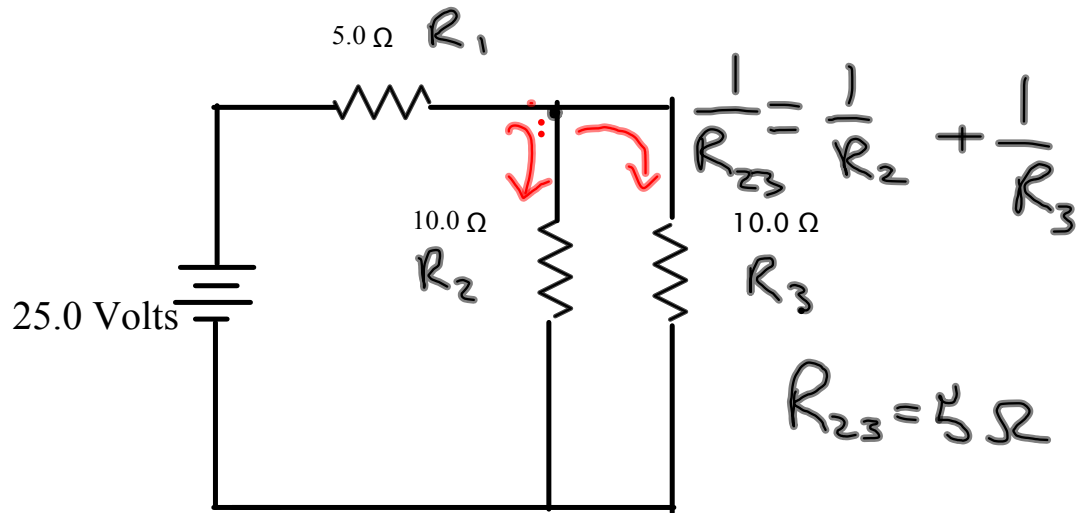
$$R_T = \frac{1}{3} \Omega$$

$$V_T = V_1 = V_2 = V_3$$

$$I_T = I_1 + I_2 + I_3$$

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$





$V_t = 25 \text{ V}$

$V_1 = I \cdot R_1 = 12.5 \text{ V}$

$V_2 = 12.5 \text{ V}$

$V_3 = 12.5 \text{ V}$

$R_t = 10 \Omega$

$R_1 = 5 \Omega$

$R_2 = 10 \Omega$

$R_3 = 10 \Omega$

$I_t = \frac{V_t}{R_t} = 2.5 \text{ A}$

$I_1 = 2.5 \text{ A}$

$I_2 = 1.25 \text{ A}$

$I_3 = 1.25 \text{ A}$

