

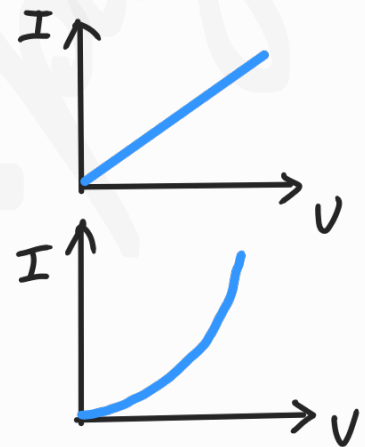
ELETRICIDADE

$$R = \frac{U}{I}$$

Lei de ohm

$$R = \rho \frac{l}{A}$$

- Se $\frac{U}{I} = \text{const}$ | CONDUTOR OHMICO
- Se $\frac{U}{I} = \text{varia}$ | CONDUTOR NÃO OHMICO

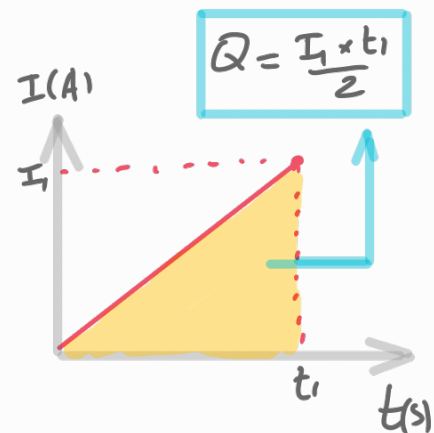


EFEITO DE JOULE

$$P_{\text{dis}} = R I^2$$

$$P = \frac{E}{\Delta t}$$

$$P = U \times I$$



$$U = \frac{E}{Q}$$

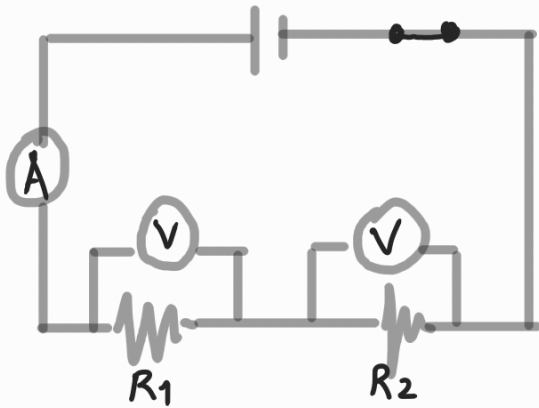
Coulomb

$$I = \frac{Q}{\Delta t}$$

$$E = \frac{E}{Q}$$

CIRCUITOS

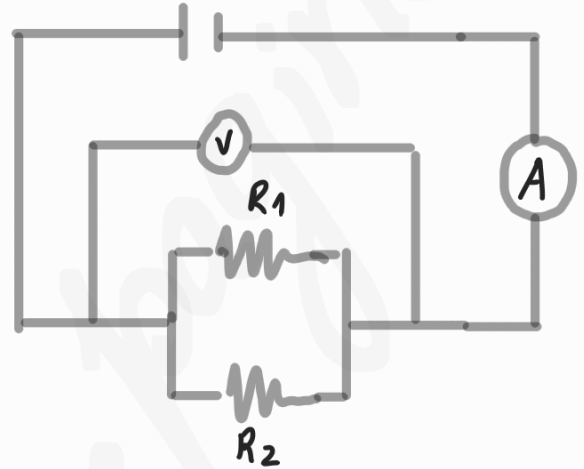
SERIE



$$I = I_1 = I_2$$

$$U = U_1 + U_2$$

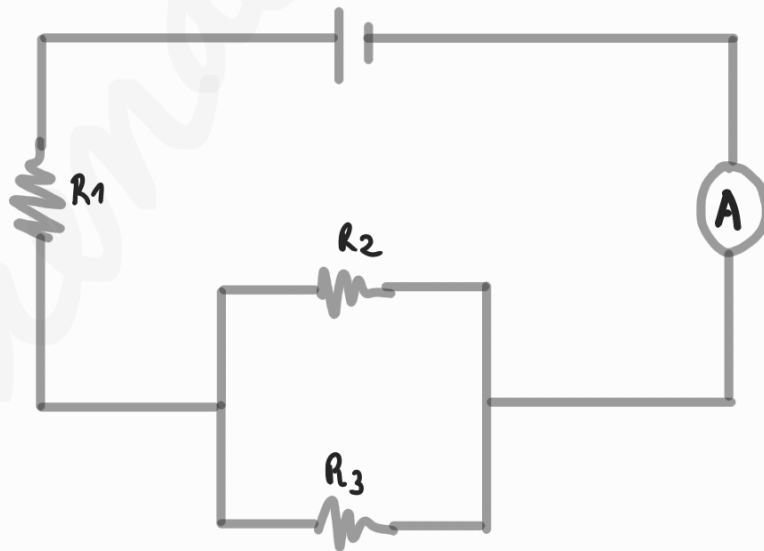
PARALELO



$$I = I_1 + I_2$$

$$U = U_1 = U_2$$

CIRCUITOS COM ASSOCIAÇÕES EM SÉRIE + PARALELO



R_2 e R_3 estão em paralelo
 R_2 e R_1 estão em série
 $R_2 + R_3$ estão em série com R_1

FORÇA ELETROMOTRIZ

$$\boxed{\varepsilon = \frac{E}{Q}}$$

volt

Coulomb

Gerador Ideal $\rightarrow r_i = 0$
 $U = \varepsilon$

$$\boxed{E_{\text{gerador}} = E_{\text{receptores}} + E_{\text{dissipada}}$$

CONSERVAÇÃO DA ENERGIA

$$\boxed{P_{\text{gerador}} = P_{\text{receptores}} + P_{\text{dissipada}}$$

$$\boxed{P_{\text{gerador}} = \varepsilon \times I}$$

$$E_{\text{gerador}} = \varepsilon \times I \times \Delta t$$

$$\boxed{P_{\text{diss}} = r_i I^2}$$

$$\boxed{P_{\text{útil}} = U \times I \quad \text{ou} \quad P_{\text{dis}} = R I^2}$$

$$\varepsilon I = U \times I + r_i I^2$$

$$\varepsilon I - r_i I^2 = U \times I$$

$$\frac{\varepsilon I}{I} - \frac{r_i I^2}{I} = U$$

$$\boxed{U = \varepsilon - r_i I}$$

CURVA CARACTERÍSTICA DO GERADOR

$$y = mx + b$$

$$\% \eta = \frac{U}{\mathcal{E}} \times 100$$

Rendimento do gerador

