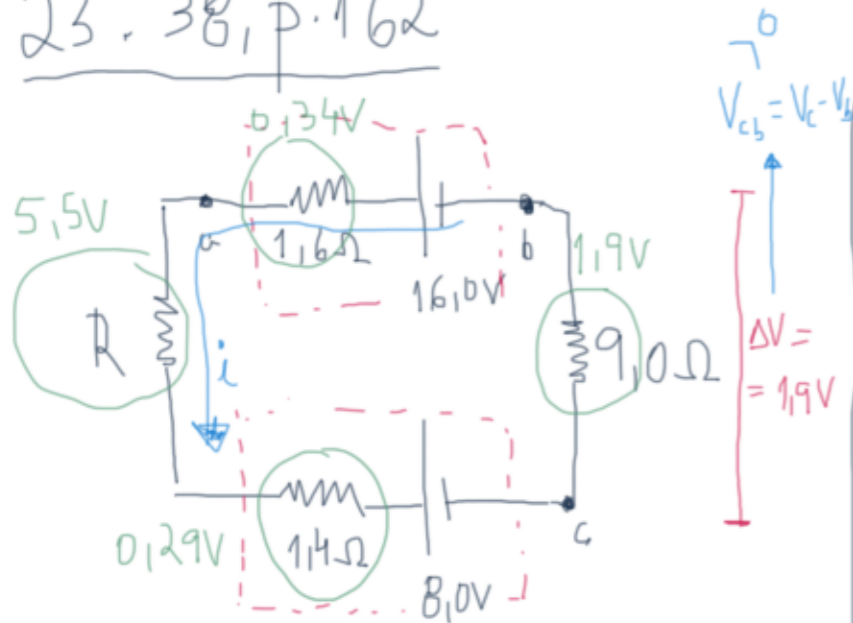


25.38, p.162



a)  $i = ?$

$$V_{cb} = 1,9 = 9,0 \cdot i$$

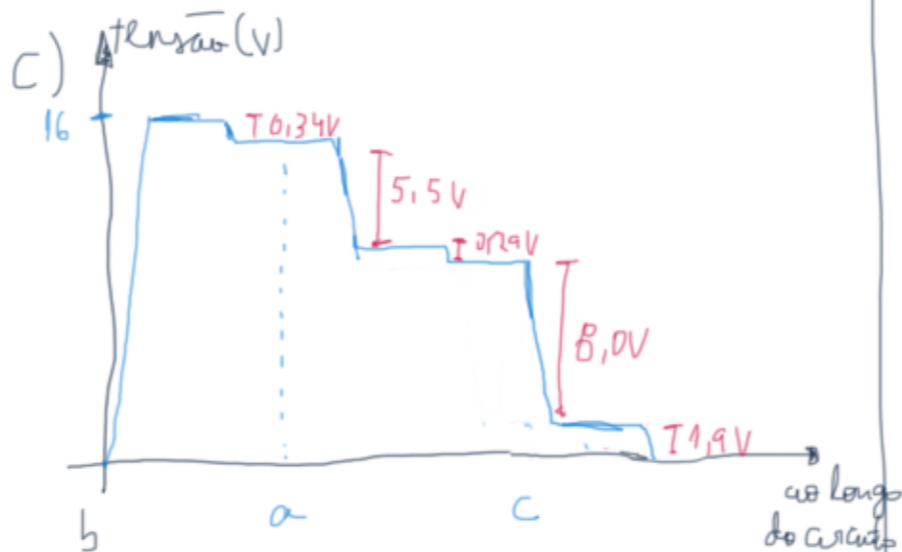
$$\boxed{i = \frac{1,9}{9,0} = 0,21 \text{ A}}$$

b)  $R = ?$

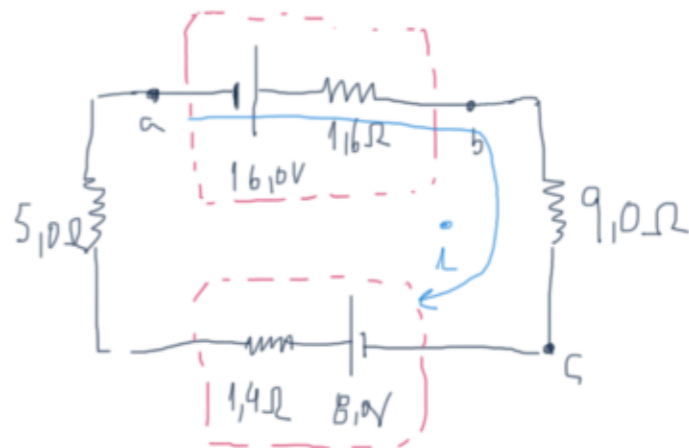
Começando em b:

$$+16,0 - 1,6 \cdot 0,21 - R \cdot 0,21 - 1,4 \cdot 0,21 - 8,0 - 9,0 \cdot 0,21 = 0$$

$$\boxed{R = 26 \Omega}$$



25.39, p.162



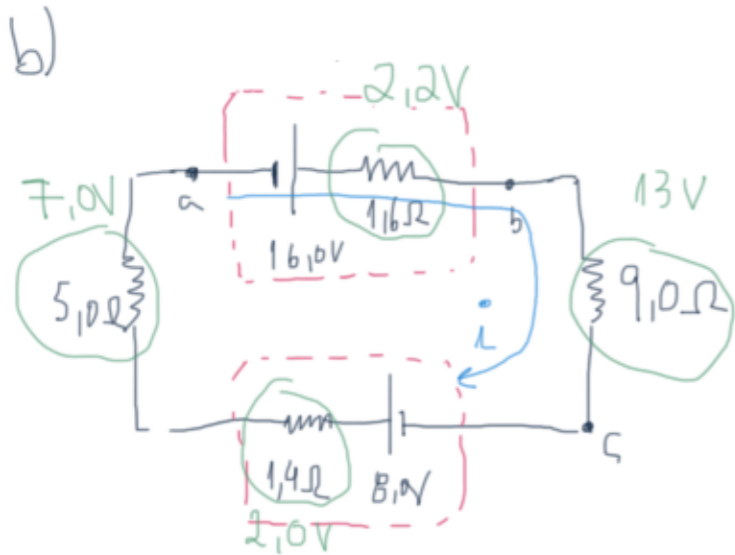
a)  $i = ?$  (módulo e sentido)

sentido = Horário

Começando em a:

$$+16,0 - 1,6 \cdot i - 9,0i + 8,0 - 1,4 \cdot i - 5,0 \cdot i = 0$$

$$\boxed{i = 1,4 \text{ A}}$$



$$V_{ab} = V_a - V_b$$

$$V_a + 16,0 - 1,6 \cdot 1,4 = V_b$$

$$V_a - V_b = -16,0 + 1,6 \cdot 1,4$$

$$(V_{ab} = \mathcal{E} - ri)$$

$$V_{ab} = -14V$$

c)  $V_{ac} = V_a - V_c = ?$

"trecho de cima":

$$V_a + 16,0 - 1,6 \cdot 1,4 - 9,0 \cdot 1,4 = V_c$$

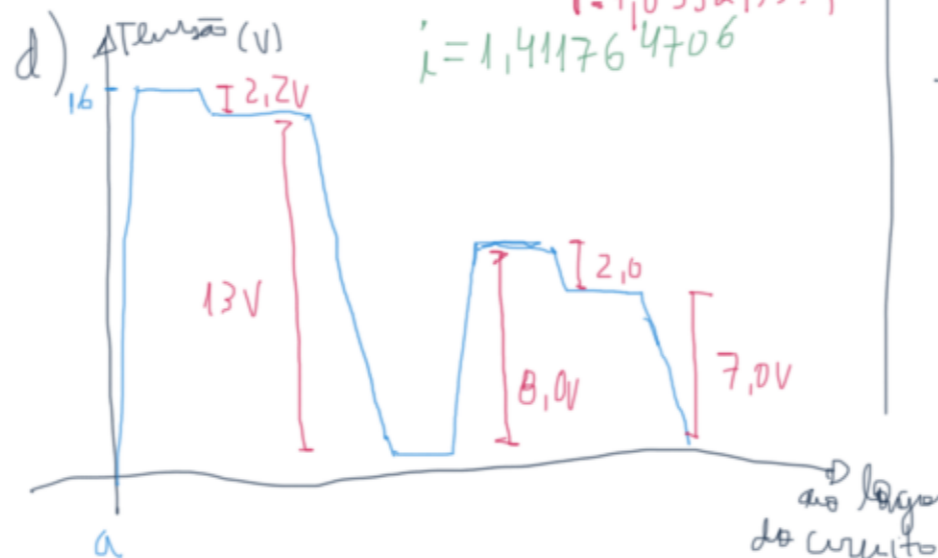
$$V_a - V_c = -16,0 + 1,4(1,6 + 9,0)$$

$$V_{ac} = -1,2V \quad (-1,03529...)$$

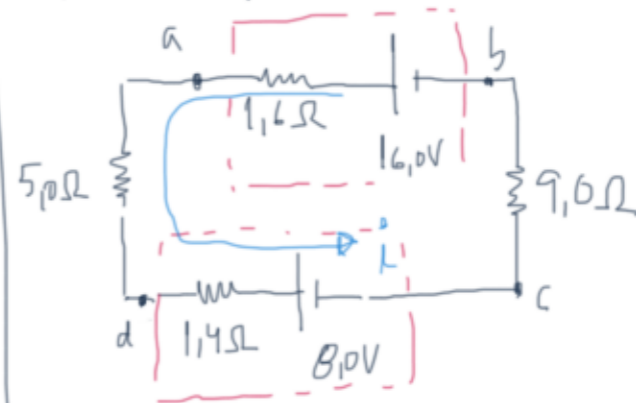
"Trecho de baixo":

$$V_a + 5,0 \cdot 1,4 + 1,4 \cdot 1,4 - 8,0 = V_c \rightarrow V_{ac} = -0,96V$$

$$i = 1,411764706$$



25.48, p.163



Ex. 25.36  
 $i = 0,47A$

a)  $P_{5,0\Omega} = Ri^2 = 5,0 \cdot 0,47^2 = 1,1W$   
 $P_{9,0\Omega} = 9,0 \cdot 0,47^2 = 2,0W$  }  $P_{5+9} = 3,1W$

b)  $P_{16,0V} = i \cdot V_{ab} = 0,47 \cdot (16,0 - 1,6 \cdot 0,47) = 7,2W$

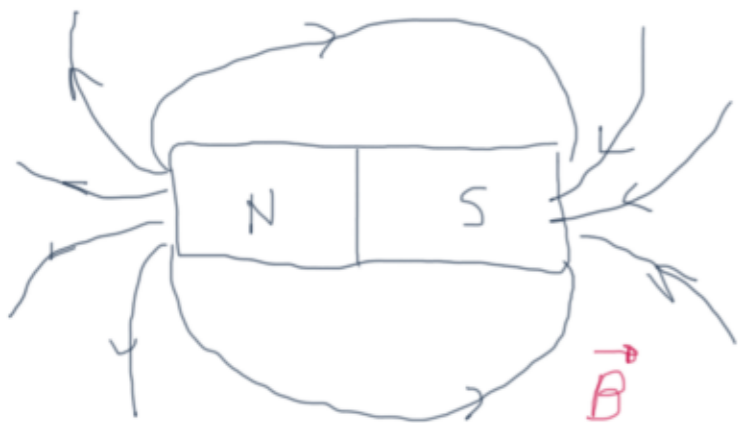
c)  $P_{8,0V} = i \cdot V_{dc} = 0,47(8,6) = 4,0W$

$$V_d - 1,4 \cdot 0,47 - 8,0 = V_c$$

$$V_d - V_c = 1,4 \cdot 0,47 + 8,0 \Rightarrow V_{dc} = 8,6V$$

d)  $P_{16,0V} = 7,2 = P_{8,0V} + P_{5+9} \approx 7,2W$

# Magnetismo



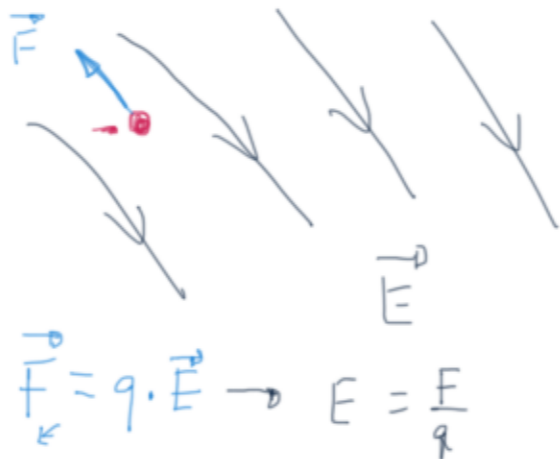
$$[\vec{B}] = \frac{N}{C \cdot m / \lambda}$$



$$= \frac{N}{A \cdot m}$$

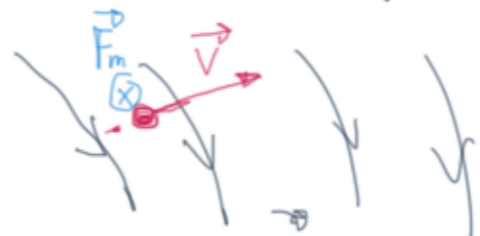
$$= T = \text{tesla}$$

$$1G = \text{gauss} = 10^{-4} T$$



$$\vec{F} = q \cdot \vec{E} \rightarrow E = \frac{F}{q}$$

Para o campo magnético:



$$\vec{F}_m = q \vec{v} \wedge \vec{B}$$

$$\rightarrow F_m = |q| v B \sin \theta$$

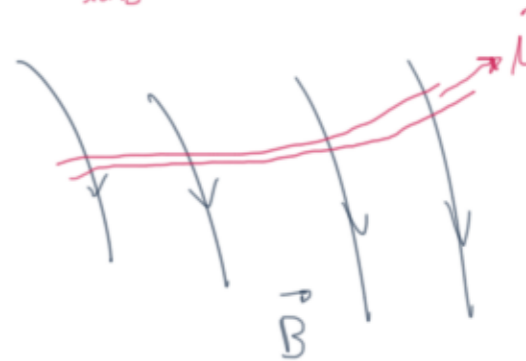
$$B = \frac{F_m}{|q| v \sin \theta}$$

$$B_{\text{terra}} \approx 0,5 G$$

$$B_{\text{atomo}} \approx 1 T$$

$$B_{\text{RMN Hospital}} = 1 T - 10 T$$

$$B_{\text{RMN lab}} = 100 T$$



$$\vec{F}_m = i \vec{L} \wedge \vec{B}$$