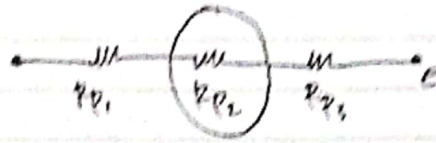
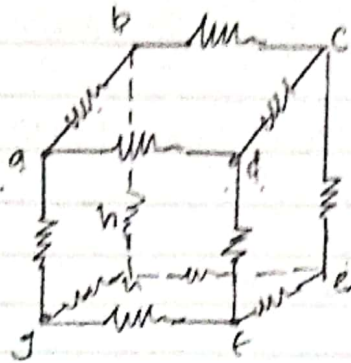


Nama : Tri Lestari

Class : 2023210503



1. Hitung Hambatan  $a-e$  :

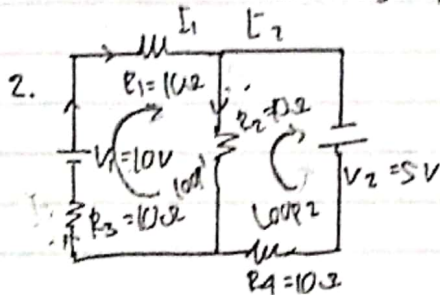
$$R_{ae} = \frac{1}{R_{p1}} + \frac{1}{R_{p3}}$$

$$R_{pe} = \left( \frac{1}{R_{ab}} + \frac{1}{R_{ad}} + \frac{1}{R_{ag}} \right) + \left( \frac{1}{R_{ec}} + \frac{1}{R_{ef}} + \frac{1}{R_{eh}} \right)$$

$$\frac{1}{R_{p1}} = \frac{1}{R_{ab}} + \frac{1}{R_{ad}} + \frac{1}{R_{ag}}$$

$$\frac{1}{R_{p2}} =$$

$$\frac{1}{R_{p3}} = \frac{1}{R_{ec}} + \frac{1}{R_{ef}} + \frac{1}{R_{eh}}$$



$V_1, V_2$

Hitung arus pada masing-masing loop

Loop 1:

$$\sum \mathcal{E} + \sum i \cdot R = 0$$

$$-V_1 + I_1 \cdot R_1 + I_3 \cdot R_2 + I_1 \cdot R_3 =$$

$$-(10 + I_1 \cdot 10 + I_3 \cdot 10 + I_1 \cdot 10) =$$

$$-10 + 10 I_3 + 20 I_1 = 0$$

$$I_1 = I_3 - I_2$$

$$= -10 + 10 I_3 + 20 I_1 = 0$$

$$= -10 + 30 I_3 = 0 \text{ pers 1}$$

Loop 2

$$\sum V + \sum I \cdot R =$$

$$5 + [I_2 \cdot 10 + I_3 \cdot 10 + I_2 \cdot 10]$$

$$5 + 10 I_3 + 20 I_2 = 0 \text{ pers 2}$$

$$\Rightarrow \text{pers 1 dan 2} \rightarrow -10 + 30 I_3 - 20 I_2 = 0$$

$$\Rightarrow \text{pers 3} \rightarrow 5 + 10 I_3 + 20 I_2 = 0$$

$$5 + 10 \cdot 0,125 + 20 I_2 = 0$$

$$5 + 1,25 + 20 I_2 = 0$$

$$I_2 = \frac{6,25}{20}$$

$$= 0,3125 \text{ A}$$

$$\frac{5 + 10 I_3 + 10 I_3 = 0}{-5 + 40 I_3 = 0}$$

$$I_3 = \frac{5}{40}$$

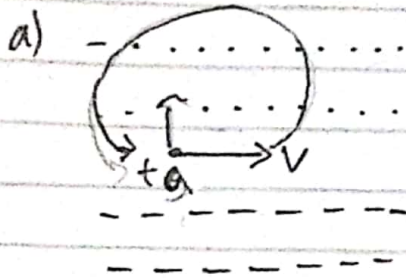
$$= 0,125 \text{ A}$$

$$\Rightarrow \text{pers 4} \rightarrow I_1 = I_3 + I_2$$

$$= 0,125 + 0,3125$$

$$= 0,4375 \text{ A}$$

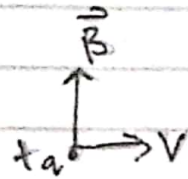
3)



a) gambarkan arah gerakan muatan listrik tersebut

b). rumuskan jumlah putaran setiap detiknya

Jawab :



$$b) f = \frac{1}{T}$$

$$\rightarrow f = \frac{1}{T}$$

$$T = \frac{2\pi r}{v}$$

$$f = \frac{1}{\frac{2\pi m}{qB}}$$

$$T = \frac{2\pi \cdot m v}{\frac{qB}{v}}$$

$$f = \frac{qB}{2\pi m}$$

$$T = \frac{2\pi m}{qB}$$