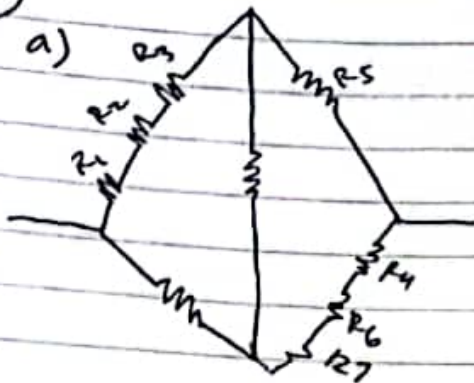


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Uas kelistrikan dan kemagnetan.

① Jawab :



diketahui : $R = 5\Omega$

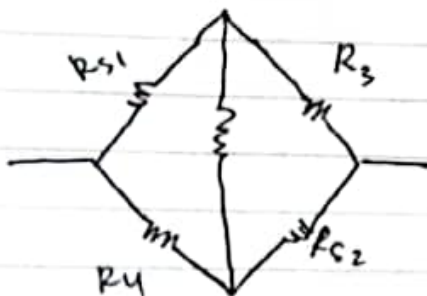
$V = 10 \text{ Volt}$

ditanya : a. hambatan pengganti

b. Arus pada setiap hambatan

$$\begin{aligned} R_{s1} &= R_1 + R_2 + R_3 \\ &= 5 + 5 + 5 \\ &= 15\Omega \end{aligned}$$

$$\begin{aligned} R_{s2} &= R_4 + R_5 + R_6 \\ &= 5 + 5 + 5 \\ &= 15\Omega \end{aligned}$$



lalu diselesaikan
dengan hambatan Wheatstone.

② Berapa besaran arus dalam kumparan ?
Diketahui :

Diketahui : $B = 20 \text{ Tesla}$

$L = 15 \text{ m}$

$R = 10\Omega$

$V = 10 \text{ m/s}$

Ditanya $I \dots ?$

$$\mathcal{E} = IR$$

$$I = \frac{\mathcal{E}}{R}$$

$$= \mathcal{E} = BLV$$

$$\begin{aligned} &= 20 \cdot 15 \cdot 10 \\ &= 3000 = 3 \times 10^3 \end{aligned}$$

$$I = \frac{\mathcal{E}}{R}$$

$$I = \frac{3 \times 10^3}{10}$$

$$I = 3 \times 10^2 \text{ A.}$$

$$(3) \quad V_{AB} = R_{AB} \left(\frac{E_1}{R_1} + \frac{E_2}{R_2} + \frac{E_3}{R_3} \right)$$

$$\frac{1}{R_{AB}} = \frac{1}{6} + \frac{1}{3} + \frac{1}{2}$$

$$R_{AB} = 1 \, \Omega$$

$$V_{AB} = 1 \left(\frac{6}{6} + \frac{12}{3} + \frac{8}{2} \right) = 9 \text{ Volt}$$

Mencari arus hambatan :

$$V_{AB} = \sum E + \sum IR$$

$$9 = 6 + (I_1)(6)$$

$$I_1 = -\frac{3}{6} = 0,5 \text{ Ampere.}$$

- (4) Gambar gaya yang dialami oleh masing-masing kawat berikut ini, jika arus i dan jarak sama besar kemana arah gerakan kawat 1, 2, dan 3

