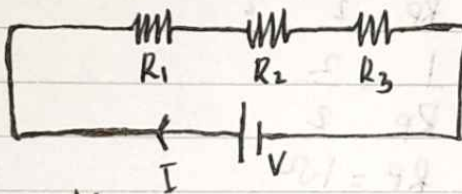
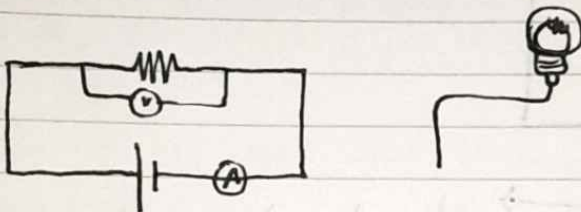


KALISMA

1. Hukum Ohm
2. Rangkaian listrik.



Pada rangkaian seri arus yang terbentuk sama.

$$I_{R_1} = \frac{V}{(R_1 + R_2 + R_3)} = \frac{V}{R_t}$$

$$V_{R_1} = I \cdot R_1$$

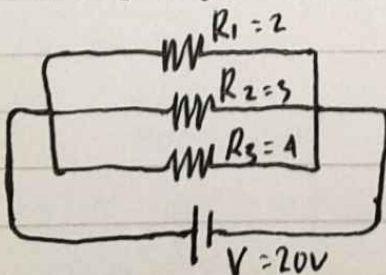
$$V_{R_1} = \frac{V}{(R_1 + R_2 + R_3)} \cdot R_1$$

$$V_{R_2} = \frac{V}{(R_1 + R_2 + R_3)} \cdot R_2$$

$$V_{R_3} = \frac{V}{(R_1 + R_2 + R_3)} \cdot R_3$$

$$I = I_{R_1} + I_{R_2} + I_{R_3}$$

b. Rangkaian Paralel



$$V = V_{R_1} + V_{R_2} + V_{R_3}$$

$$I_{R_1} = \frac{V}{R_1}$$

$$I_{R_2} = \frac{V}{R_2}$$

$$I_{R_3} = \frac{V}{R_3}$$

$$I = \frac{V}{R_t}$$

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

$$I_{R_1} = \frac{V}{R_1} = \frac{20}{2} = 10$$

$$I_{R_2} = \frac{V}{R_2} = \frac{20}{3} = 6.6$$

$$I_{R_3} = \frac{V}{R_3} = \frac{20}{4} = 5$$

$$R_t = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} = \frac{1}{2} + \frac{1}{3} + \frac{1}{4}$$

$$= \frac{6}{12} + \frac{4}{12} + \frac{3}{12} = \frac{6+4+3}{12} = \frac{13}{12} = \frac{12}{13}$$

$$I = \frac{V}{R_t} = \frac{20}{\frac{12}{13}} = \frac{20 \cdot 13}{12} = \frac{260}{12} = 21.73 \text{ A}$$

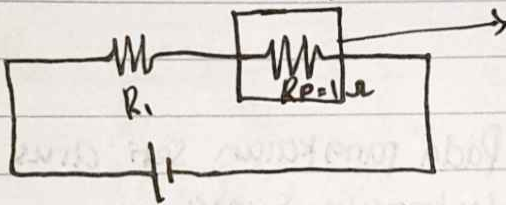
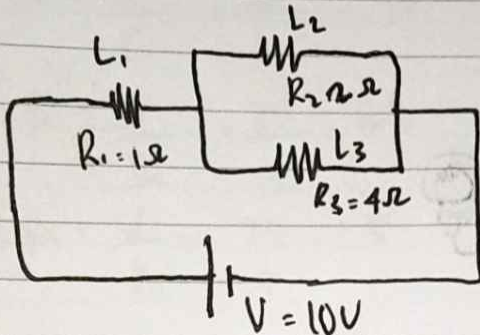
$$I_{R_1} = \frac{V}{R_1} = \frac{10}{2} = 5$$

10V +

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

$$I = \frac{10}{3} = 3.3$$

c. hukum Kirchhoff



$$\frac{1}{R_p} = \frac{1}{2} + \frac{1}{2}$$

$$\frac{1}{R_p} = \frac{2}{2}$$

$$R_p = 1\Omega$$

$$R_t = R_1 + R_p = 2 + 1 = 3\Omega$$

$$I_t = \frac{V}{R_t} = \frac{10}{3} = 3.33 \text{ A}$$

$$I_{R_1} = 3.33 \text{ A}$$

$$I_{R_p} = 3.33 \rightarrow V_{R_p} = R_p \cdot I = 1 \cdot 3.33 = 3.3 \text{ Volt}$$

$$I_{R_2} = I_{R_3} = \frac{V_{R_p}}{R_2} = \frac{3.33}{2} = 1.6 \text{ A}$$

~~2.16 A~~