

$$500i + 10V + 200i + 300i - 5 = 0$$
$$1000i = -5$$

$$i = -5 \text{ mA}$$

$$V_{R1} = 500 \cdot 5 \cdot 10^{-3} = 2,5 \text{ V}$$

$$V_{R2} = 200 \cdot 5 \cdot 10^{-3} = 1 \text{ V}$$

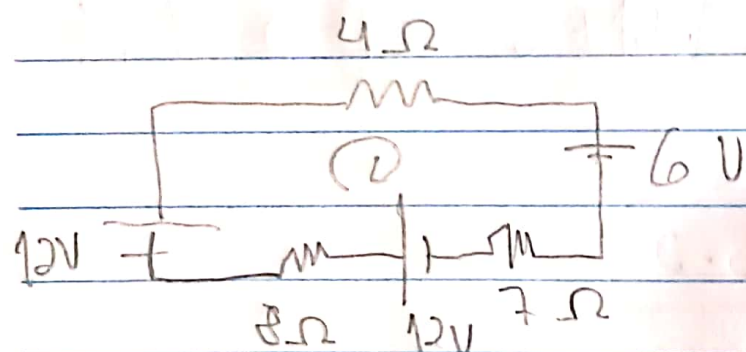
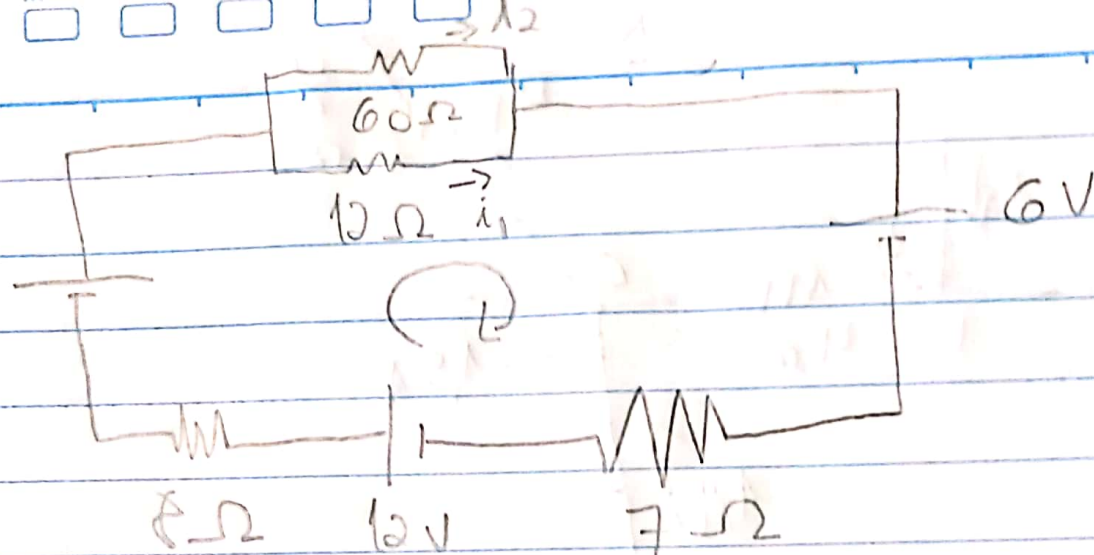
$$V_{R3} = 300 \cdot 5 \cdot 10^{-3} = 1,5 \text{ V}$$

$$V_{ab} = 10 - V_{R2} - V_{R3} = 7,5 \text{ V}$$

$$V_{ab} = 7,5 \text{ V}$$

②

12V



$$\sum V = 0 \Rightarrow -12 + 4i_2 + 6 + 7i_2 - 10 + 18i_2 = 0$$

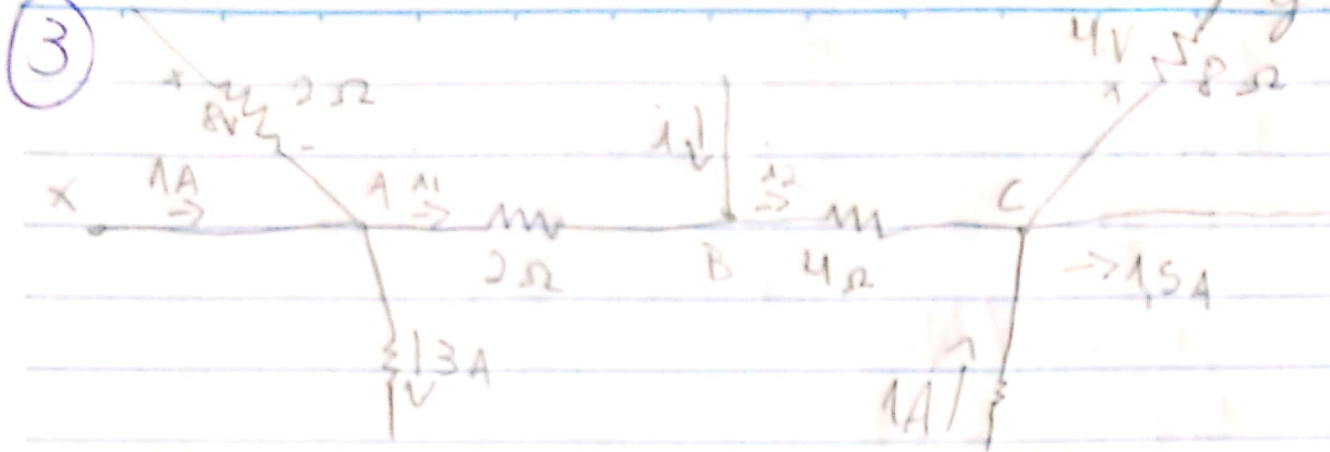
$$19i_2 = 18 \Rightarrow i_2 = \frac{18}{19}$$

$$i_1 + i_2 = 18/19 \Rightarrow 6i_1/5 = 18/19$$

$$12i_1 = 60i_2 \Rightarrow i_2 = \frac{i_1}{5}$$

$$i_1 = \frac{18}{19} \cdot 5 = \frac{15}{19}$$

$$i_1 \approx 789 \text{ mA}$$



$$\sum i_A = 0 \Rightarrow 1 + \frac{8}{2} - i_1 \Rightarrow i_1 = 2A$$

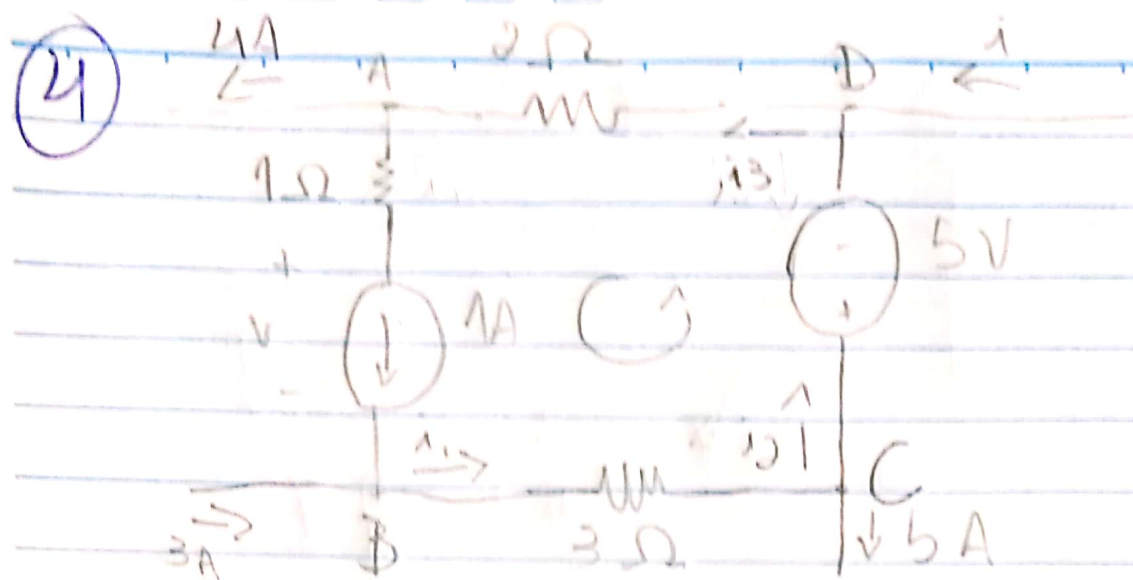
$$\sum i_B = 0 \Rightarrow i_1 + 1 - i_2 = 0 \Rightarrow i_2 = i_1 + 1$$

$$\sum i_C = 0 \Rightarrow i_2 + 1 - \frac{4}{8} - 1.5 = 0 \Rightarrow i_2 = 1A$$

$$i = -1A$$

$$V_{xy} = 2 + 1 \cdot 4 + 4 = 12$$

$$\begin{aligned} i &= -1A \\ V_{xy} &= 12V \end{aligned}$$



Determinando i :

$$\sum i_A = 0 \Rightarrow i_3 + 4 - 1 = 0 \Rightarrow i_3 = 5A$$

$$\sum i_B = 0 \Rightarrow 1 + i_1 - 3 = 0 \Rightarrow i_1 = 4A$$

$$\sum i_C = 0 \Rightarrow i_1 - i_2 - 5 = 0 \Rightarrow i_2 = -1$$

$$\sum i_D = 0 \Rightarrow i + i_2 - i_3 = 0 \Rightarrow i = -6A$$

Determinando V :

$$\sum V_{malha} = 0 \Rightarrow 1 + V + 3i_1 + 5 + 2i_3 = 0$$

$$V = -6 - 3i_1 - 2i_3 = -6 - 12 - 10 = -28$$

$$\boxed{i = 6A}$$

$$\boxed{V = -28V}$$