

13.)

$$\mathcal{E}_1 = 60V \quad \mathcal{E}_2 = 10V \quad R_1 = 8\Omega \quad \boxed{R_2 = 2\Omega \quad R_3 = 4\Omega} \quad \boxed{R_4 = 6\Omega \quad R_5 = 12\Omega}$$

$$C_1 = 4\mu F \quad C_2 = 6\mu F$$

$$a.) I_1 = ? \quad b.) Q_1 = ?$$

$$\boxed{R_e = \sum R_i \text{ soros}}$$

$$\boxed{\frac{1}{R_e} = \sum \frac{1}{R_i} \text{ párhuzamos}}$$

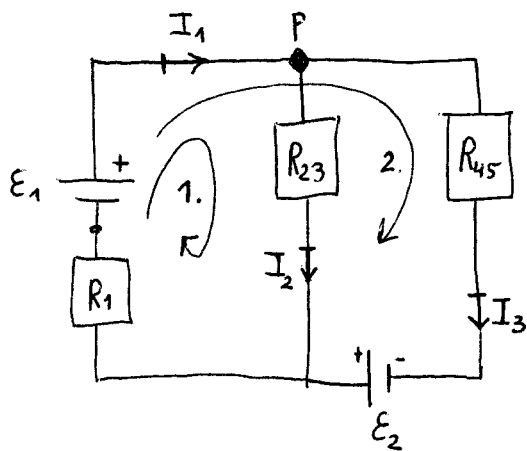
$$\text{Kirchhoff 1: } \boxed{\sum I_i = 0}$$

$$\text{Kirchhoff 2: } \boxed{\sum U_i = 0}$$

a.)

$$R_{23} = R_2 + R_3$$

$$R_{45} = \frac{R_4 R_5}{R_4 + R_5}$$



stationárius eset: kondenzátor szakadás  
( $I=0$ )

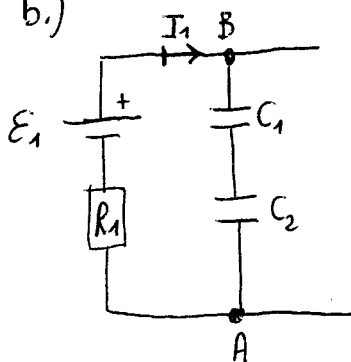
$$\text{Pusomópont: } I_1 = I_2 + I_3$$

$$\text{hurok 1. : } \mathcal{E}_1 - I_2 \cdot R_{23} - I_1 \cdot R_1 = 0$$

$$\text{hurok 2. : } \mathcal{E}_1 - I_3 \cdot R_{45} + \mathcal{E}_2 - I_1 \cdot R_1 = 0$$

3 egyenlet, 3 ismeretlen  $\Rightarrow \underline{\underline{I_1}}$

b.)



soros:

$$Q_1 = Q_2 = Q_{12} = C_{12} U_{AB} = \dots$$

$$C_{12} = \frac{C_1 \cdot C_2}{C_1 + C_2}$$

$$U_{AB} = -I_1 R_1 + \mathcal{E}_1$$