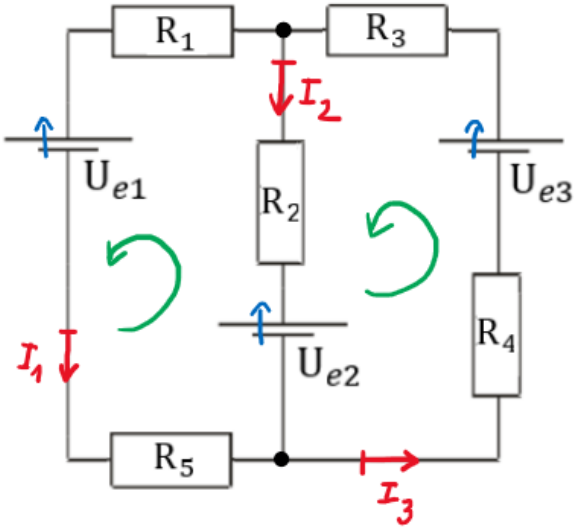


$R_1 = R_3 = R_4 = R_5 = 2\,\Omega$

$R_2 = 4\,\Omega$

$U_{e1} = 3\,V$

$U_{e2} = U_{e3} = 6\,V$

$I_1, I_2, I_3 = ?$

$$I_1 + I_2 = I_3$$

$$R_1 I_1 + R_5 I_1 - R_2 I_2 = U_{e2} - U_{e1}$$

$$R_2 I_2 + R_4 I_3 + R_3 I_3 = U_{e3} - U_{e2}$$

$$I_1 + I_2 - I_3 = 0 \quad /\cdot 4$$

$$4I_1 - 4I_2 = 3$$

$$4I_2 + 4I_3 = 0$$

$$8I_1 - 4I_3 = 3$$

$$4I_1 + 4I_3 = 3$$

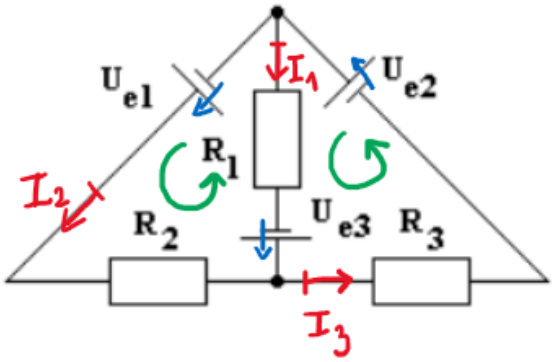
$$12 I_1 = 6$$

$$I_1 = \frac{1}{2}\,A$$

$$I_2 = \frac{4I_1 - 3}{4} = -\frac{1}{4}\,A$$

$$I_3 = I_1 + I_2 = \frac{1}{4}\,A$$

$I_2 < 0 \Rightarrow$ má opačný směr, než jak je vyznačeno na obrázku



$R_1 = 3\,\Omega$

$R_2 = 8\,\Omega$

$R_3 = 6\,\Omega$

$U_{e_1} = 15\,V$

$U_{e_2} = 12\,V$

$U_{e_3} = 6\,V$

$$I_1 + I_2 = I_3$$

$$-R_1 I_1 + R_2 I_2 = U_{e_1} - U_{e_3}$$

$$R_1 I_1 + R_3 I_3 = U_{e_2} + U_{e_3}$$

$$I_1 + I_2 - I_3 = 0 \quad / \cdot 6$$

$$-3I_1 + 8I_2 = 9$$

$$3I_1 + 6I_3 = 18$$

$$9I_1 + 6I_2 = 18 \quad / : 3$$

$$-3I_1 + 8I_2 = 9$$

$$10 I_2 = 15$$

$$\underline{\underline{I_2 = 1{,}5\,A}}$$

$$-3I_1 + 12 = 9$$

$$3I_1 = 3 \Rightarrow \underline{\underline{I_1 = 1\,A}}$$

$$I_3 = I_1 + I_2 = 1 + 1{,}5 = \underline{\underline{2{,}5\,A}}$$