№1.6, В-13

115 – R_1

241 – ИТ $i_2 = 2$

314 – R_3

412 – R_4

523 – ИН $u_5 = 2$

634 – ИТ $i_6 = 2$

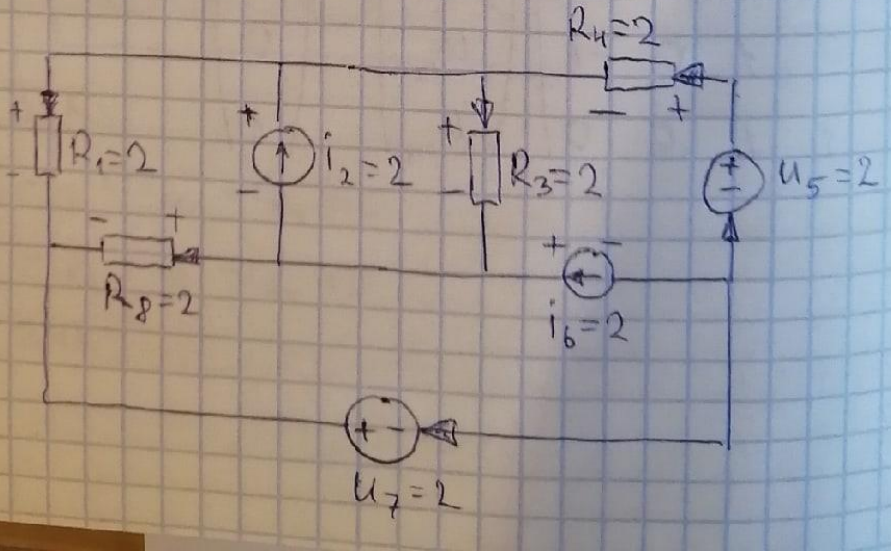
753 – ИН $u_7 = 2$

845 – R_8

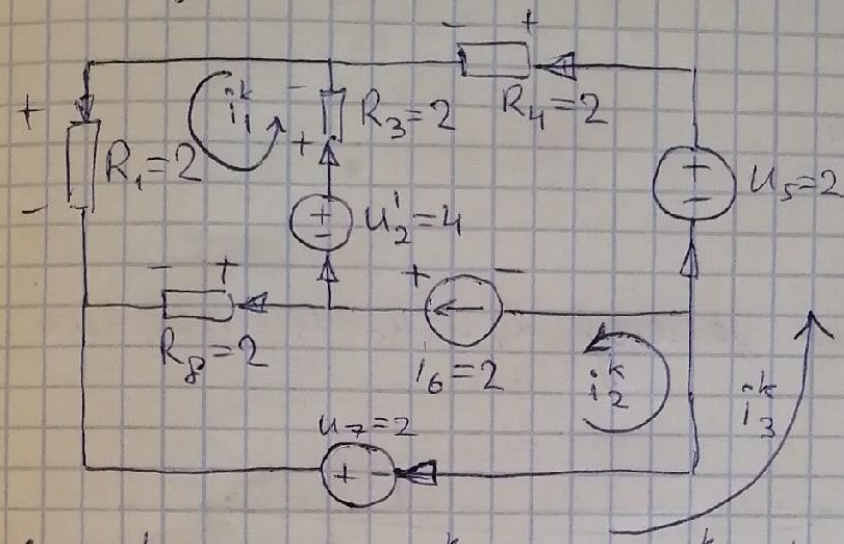
$R_k = 2$

МКТ, МУН

Начальная схема



для i_2 и R_3 составим схему замещения и получим ЭН $u_2' = 4$



$i_{R_4} = i_3^k$ $\quad i_{R_3} = i_1^k$ $\quad i_{R_1} = i_3^k + i_1^k$ $\quad i_{R_8} = i_2^k - i_1^k$

$$\begin{cases} i_2^k = i_6 \\ i_3^k R_4 + (i_3^k + i_1^k) R_1 = u_5 - u_7 \\ (i_3^k + i_1^k) R_1 + i_1^k R_3 - (i_2^k - i_1^k) R_8 = u_2' \end{cases}$$

$i_2^k = 2$

$$\begin{cases} i_3^k \cdot 2 + i_3^k \cdot 2 + i_1^k \cdot 2 = 0 \\ i_3^k \cdot 2 + i_1^k \cdot 2 + i_1^k \cdot 2 + i_1^k \cdot 2 = 4 + 2 \cdot 2 \end{cases}$$

$$\begin{cases} 4 i_3^k + 2 i_1^k = 0 \\ 2 i_3^k + 6 i_1^k = 8 \end{cases}$$

$i_3^k = -0,8$ $\quad i_1^k = 1,6$ $\quad i_2^k = 2$

$i_{R_4} = -0,8$

$i_{R_3} = 1,6$

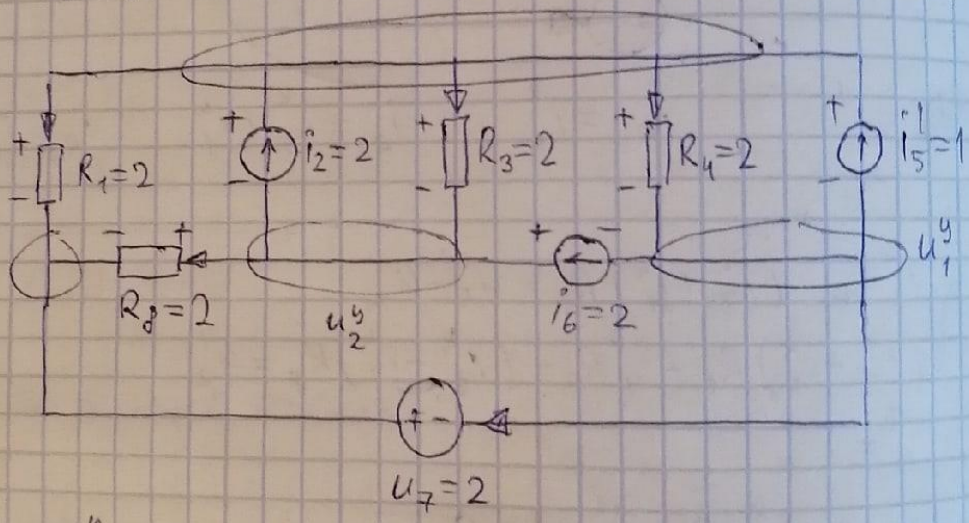
$i_{R_1} = 0,8$

$i_{R_8} = 0,4$

МУН

произведём замену R_4 и u_5 и получим

$i_5' = 1$



$u_8^y = 0$ $\quad u_{R_1} = u_3^y - u_8^y$ $\quad u_{R_3} = u_3^y - u_2^y$ $\quad u_{R_8} = u_2^y - u_8^y$

$u_{R_4} = u_3^y - u_1^y$

$$\begin{cases} u_1^y = -u_7 \\ (G_1 + G_3 + G_4) u_3^y - G_3 u_2^y - G_4 u_1^y = i_2 + i_5' \\ (G_8 + G_3) u_2^y - G_3 u_3^y = i_6 - i_2 \end{cases}$$

$$u_1^y = -2$$

$$\begin{cases} 1{,}5\,u_3^y - 0{,}5\,u_2^y = 3 - 1 \\ -0{,}5\,u_3^y + u_2^y = 0 \end{cases}$$

$u_1^y = -2$ ~~2~~ $\quad u_2^y = 0{,}8$ ~~1,6~~ $\quad u_3^y = 1{,}6$ ~~3,2~~

$U_{R_1} = 1{,}6$ ~~3,2~~

$U_{R_3} = 0{,}8$ ~~1,6~~

$U_{R_2} = 0{,}8$ ~~1,6~~

$U_{R_4} = 3{,}6$ ~~7,2~~