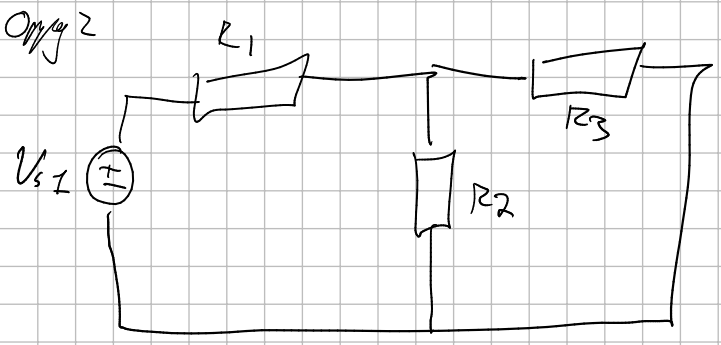
ERT 9

Opg 2



$$R_{tot} = R_1 + \left(\frac{1}{R_2} + \frac{1}{R_3}\right)^{-1} = R_1 + \left(\frac{R_2 + R_3}{R_2 R_3}\right)^{-1} = R_1 + \frac{R_2 R_3}{R_2 + R_3}$$

$$R_{tot} - R_1 = \frac{R_2 R_3}{R_2 + R_3}$$

$$(R_{tot} - R_1)(R_2 + R_3) = R_2 R_3$$

$$R_T R_2 + R_T R_3 - R_1 R_2 - R_1 R_3 = R_2 R_3 \quad | \cdot \frac{1}{R_2}$$

$$R_T + \frac{R_T R_3}{R_2} - R_1 - \frac{R_1 R_3}{R_2} = R_3$$

$$R_T - R_1 - R_3 = \frac{R_1 R_3 - R_T R_3}{R_2}$$

$$R_2 = \frac{R_3(R_1 - R_T)}{R_T - R_3 - R_1}$$

$$U_2 = I_2 \frac{R_3(R_1 - R_T)}{R_T - R_3 - R_1}$$

$U = R I$

$U_2 = R_2 I_2$

$R_2 = \frac{U_2}{I_2}$

$I =$

$U = R I$

$I = \frac{U}{R_{tot}}$

$U - U_1 - (U_2 + U_3) = 0$

$U - U_1 - U_2 - U_3 = 0$

$U_2 = U - U_1 - U_3$

$U_3 = U_2$

$U_2 + U_3$

$2U_2 = U - U_1$

$2U_2 = U - R_1 I$

$2U_2 = U - R_1 \frac{U}{R_T}$

$U_2 = \frac{U}{2}\left(1 - \frac{R_1}{R_T}\right)$

$U = 10V,\ R_1,\ R_2,\ R_3$

$I - i_1 - i_2 - i_3 = 0$

$i_3 = I - i_1 - i_2$

$= \frac{U}{R_{tot}} - \frac{U_1}{}$

$= U - R_1 I_1 - R_3 I_3$

$= U - R_1 I - R_3 I_3$

$= U - R_1 \frac{U}{R_T} -$

$$R_{tot} = R_1 + \left(\frac{1}{R_2} + \frac{1}{R_3}\right)^{-1} = R_1 + \left(\frac{R_2 + R_3}{R_2 R_3}\right)^{-1} = R_1 + \frac{R_2 R_3}{R_2 + R_3}$$

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

$$U_2 = \frac{1}{2} U \left(1 - \frac{R_1}{\frac{R_1(R_2 + R_3) + R_2 R_3}{R_2 + R_3}}\right) = \frac{1}{2} U \left(1 - \frac{R_1(R_2 + R_3)}{R_1(R_2 + R_3) + R_2 R_3}\right)$$

$$U_2 = \frac{1}{2} U \left(1 - \frac{R_1(R_2 + R_3)}{R_1(R_2 + R_3) + R_2 R_3}\right)$$ fei!

$$U_2 = U \left(1 - \frac{R_1(R_2 + R_3)}{R_1(R_2 + R_3) + R_2 R_3}\right)$$

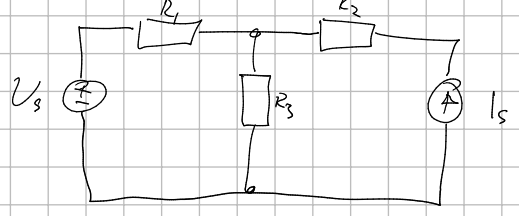
Опыт 3

$$U_2 = U\left(1 - \frac{R_1(R_2 + R_3)}{R_1(R_2 + R_3) + R_2 R_3}\right)$$

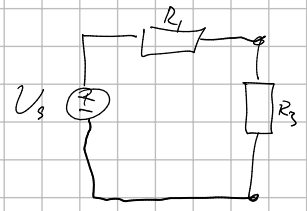
$$U_2 = U\left(1 - \frac{R_3(R_2 + R_1)}{R_3(R_2 + R_1) + R_1 R_3}\right)$$

Oppg 6)

$$U_3 = \frac{R_3(U + R_1 I)}{R_1 + R_3}$$



$I_s = 0$ ⇒



$U = U_1 + U_3$

$U_3 = U - U_1$ $\qquad U = R_T I \Rightarrow I = \frac{U}{R_T}$

$U_3 = U - I R_1$

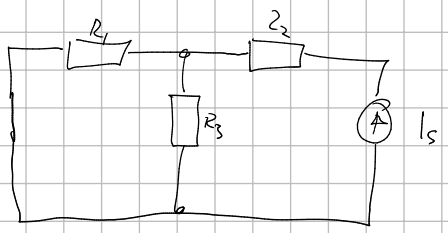
$U_3 = U - U \frac{R_1}{R_1 + R_3}$

$U_3 = U\left(1 - \frac{R_1}{R_1 + R_3}\right)$

$= U\left(\frac{R_1 + R_3 - R_1}{R_1 + R_3}\right)$

$$U_3 = U \frac{R_1}{R_1 + R_3}$$

$U_s = 0$ ⇒



$I = I = i_2 = i_1 + i_3$

$I = \frac{U_1}{R_1} + \frac{U_3}{R_3}$

$= U_3\left(\frac{1}{R_1} + \frac{1}{R_3}\right) = U_3\left(\frac{R_1 + R_3}{R_1 R_3}\right)$

Parallell ⇒ $U_1 = U_3$

$$U_3 = I \frac{R_1 R_3}{R_1 + R_3}$$

$$U_3 = J \frac{R_1 R_3}{R_1 + R_3}$$

$$U_3 = U \frac{R_3}{R_1 + R_3}$$

$$U_3 = \frac{U R_3}{R_1 + R_3} + J \frac{R_1 R_3}{R_1 + R_3}$$

$$U_3 = \frac{U R_3 + J R_1 R_3}{R_1 + R_3}$$

$$U_3 = \frac{R_3 (U + J R_1)}{R_1 + R_3}$$