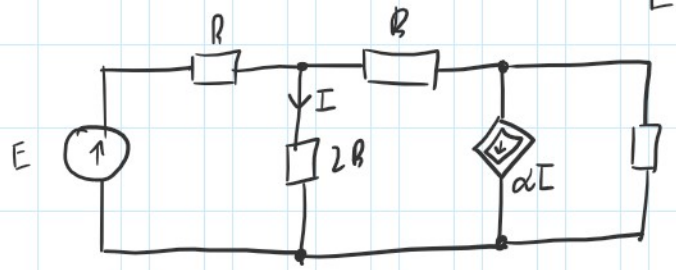
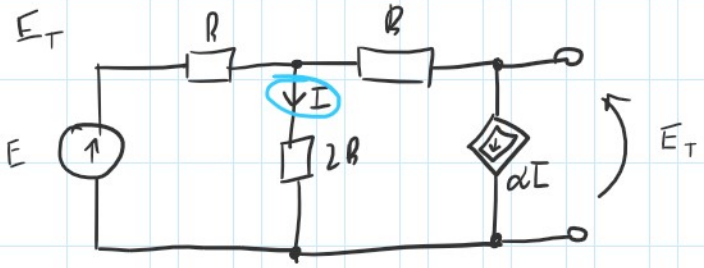
Z3

piątek, 24 listopada 2023 18:59

$E = 2V,\ R = 1\Omega,\ \alpha = \frac{1}{2}$





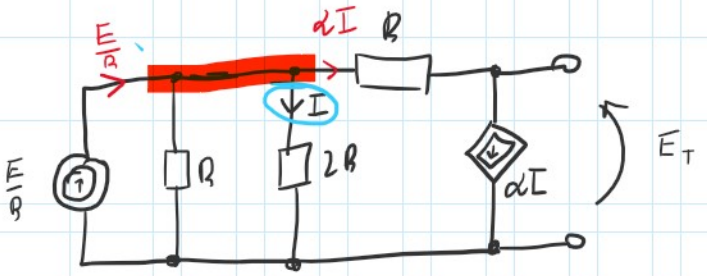
$$I = \left(\frac{E}{R} - \alpha I\right) \cdot \frac{R}{R+2R}$$

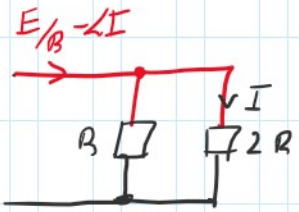
$$I = \left(\frac{E}{R} - \alpha I\right) \cdot \frac{1}{3} \quad / \cdot 3$$

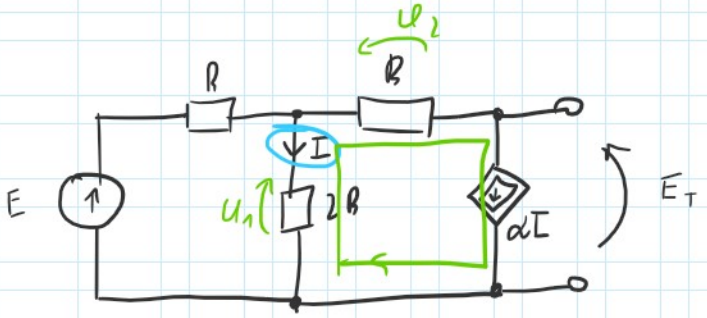
$$3I = \frac{E}{R} - \alpha I$$

$$I(3+\alpha) = \frac{E}{R}$$

$$I = \frac{E}{R(3+\alpha)}$$



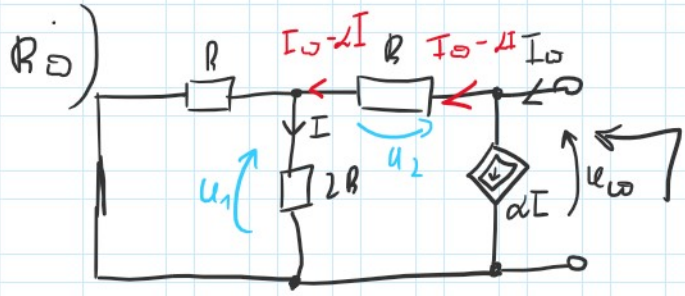




$$U_1 - U_2 - E_T = 0$$

$$I \cdot 2R - \alpha I R = E_T$$

$$E_T = \frac{2-\alpha}{3+\alpha} \cdot E$$



$$R_0 = \frac{U_0}{I_0}$$

$$U_1 + U_2 - U_0 = 0$$

$$U_0 = U_1 + U_2$$

...

$$I = \left(I_0 - \alpha I\right) \cdot \frac{R}{R+2R}$$

$$I = \frac{I_0}{3+\alpha}$$