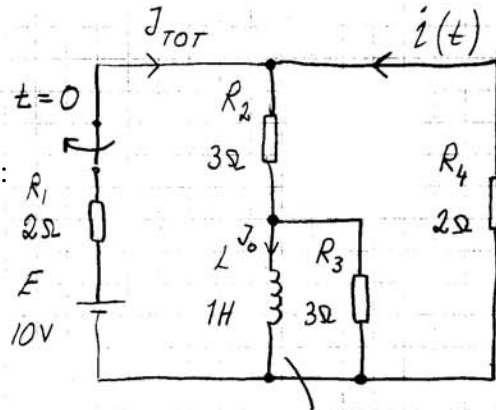


C12

Beräkning av
begynnelsevillkor:



SÖK $i(0)$.

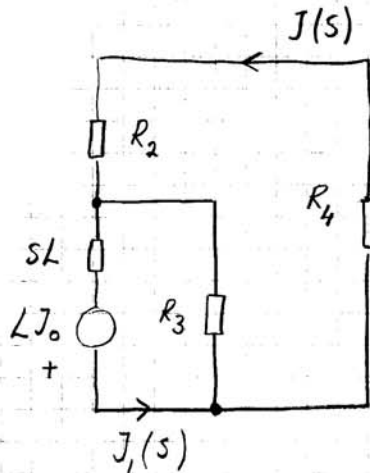
$$u_L = 0 \Rightarrow J_{R3} = 0$$

$$J_0 = J_{TOT} \cdot \frac{R_4}{R_2 + R_4} \dots (1)$$

$$J_{TOT} = \frac{E}{R_{TOT}} = \frac{E}{R_1 + \frac{R_2 \cdot R_4}{R_2 + R_4}} \Rightarrow J_{TOT} = \frac{50}{16} \text{ A}$$

$$\text{INS } (1) \Rightarrow J_0 = \frac{20}{16} \text{ A}$$

Operatorschema:



$$J(s) = J_1(s) \cdot \frac{R_3}{R_3 + R_2 + R_4} \dots (2)$$

$$\left. \begin{aligned} J_1(s) &= \frac{LJ_0}{sL + R} \\ R &= \frac{R_3(R_2 + R_4)}{R_3 + R_2 + R_4} \end{aligned} \right\} \Rightarrow J_1(s) = \frac{\frac{20}{16}}{s + \frac{15}{8}}$$

INS 1 (2) \Rightarrow

$$J(s) = \frac{15}{32} \cdot \frac{1}{s + \frac{15}{8}}$$

$$i(t) = \frac{15}{32} \cdot e^{-\frac{15}{8}t}$$

$$i(0) = \frac{15}{32} \text{ A}$$