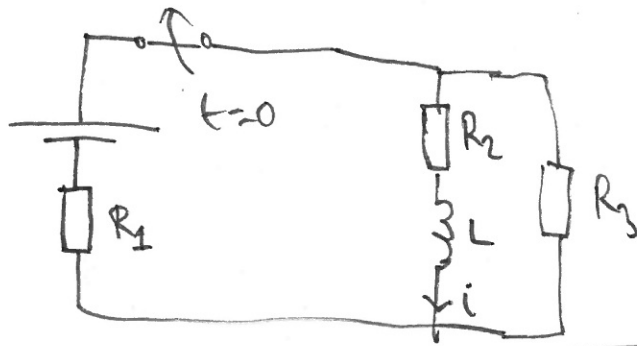


C-9)



$$\begin{aligned}R_1 &= 20\Omega \\R_2 &= 40\Omega \\R_3 &= 40\Omega \\L &= 4.0\text{H} \\E &= 80\text{V}\end{aligned}$$

Sök  $I_0$  alltså strömmen  $i$  vid stationärt tillstånd

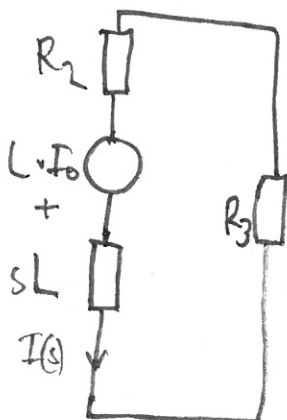
$$I_{\text{tot}} = \frac{E}{R_{\text{tot}}} = \frac{E}{R_1 + \frac{R_2 \cdot R_3}{R_2 + R_3}} \Rightarrow I_{\text{tot}} = 2\text{A}$$

( $\omega L = 0$  då  $\omega = 0$ , alltså likström)

Strömdelning ger:

$$I_0 = I_{\text{tot}} \cdot \frac{R_3}{R_2 + R_3} \Rightarrow I_0 = 1\text{A}$$

Operator schema:



$$I(s) = \frac{L \cdot I_0}{R_2 + R_3 + sL} = \frac{I_0}{s + \frac{R_2 + R_3}{L}}$$

$$\Rightarrow I(s) = \frac{1}{s + 20}$$

$$\Rightarrow i(t) = e^{-20t}$$

$$i(0,050) = e^{-20 \cdot 0,050} \text{ A} = 0,37\text{A}$$