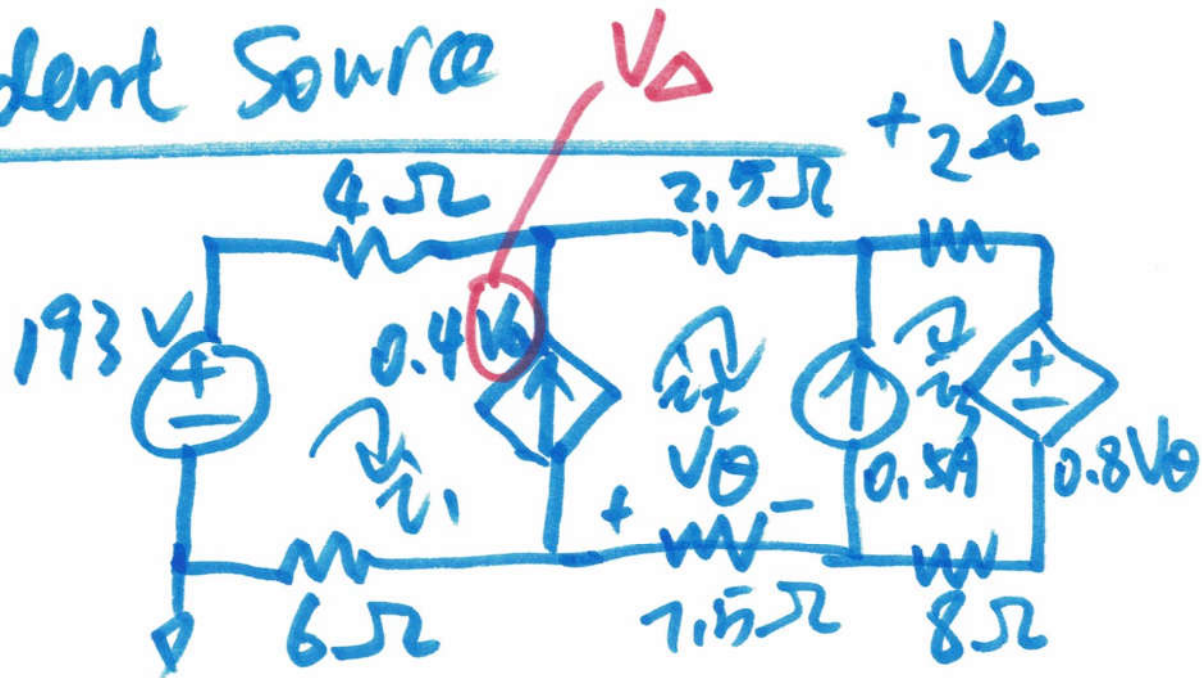


Dependent Source



$$-193 + i_1 \cdot 4 + i_2 \cdot 2.5$$

$$+ 2 \cdot i_3 + 0.8V_{\theta}$$

$$+ 8 \cdot i_3 + 7.5i_2 + 6 \cdot i_1 = 0 \quad (1)$$

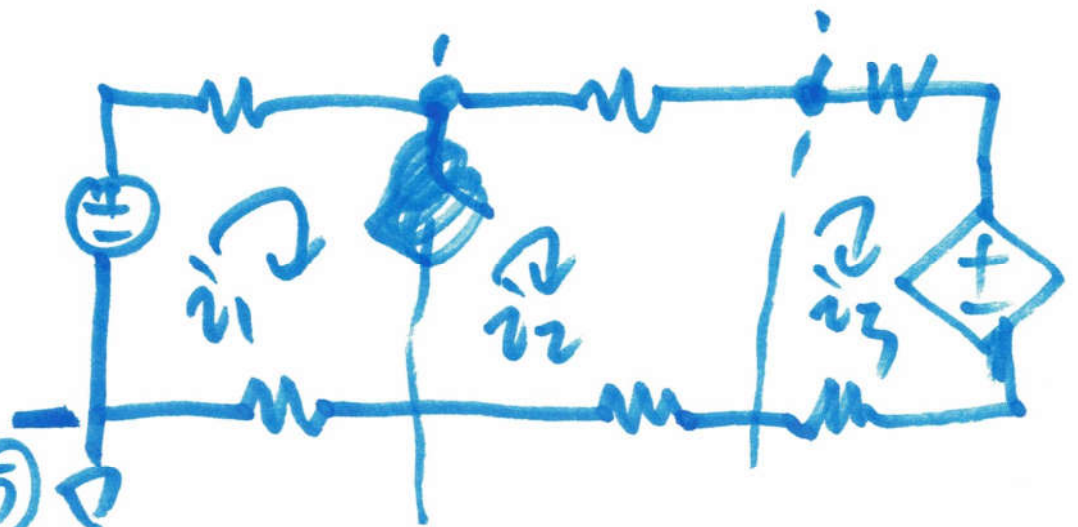
↓ Super-mesh

$$0.4V_{\Delta} = i_2 - i_1 \quad (2)$$

$$V_{\theta} = -i_2 \cdot 7.5 \quad (3)$$

$$V_{\Delta} = i_3 \cdot 2 \quad (4)$$

$$i_3 - i_2 = 0.5A \quad (5)$$



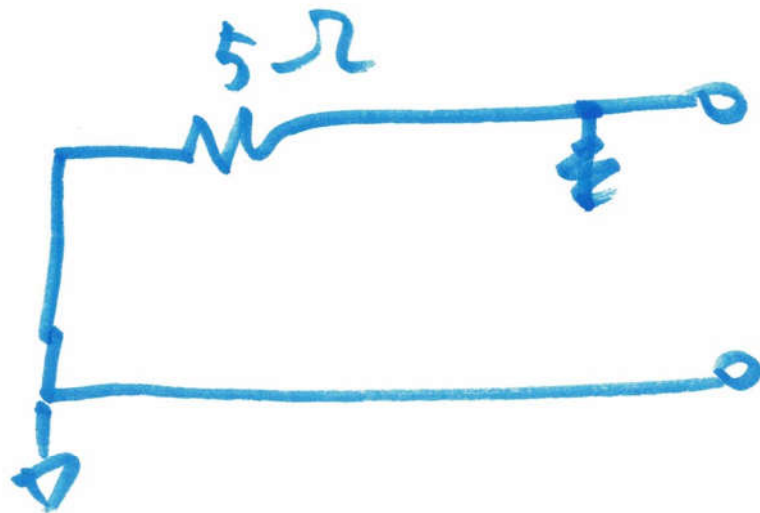
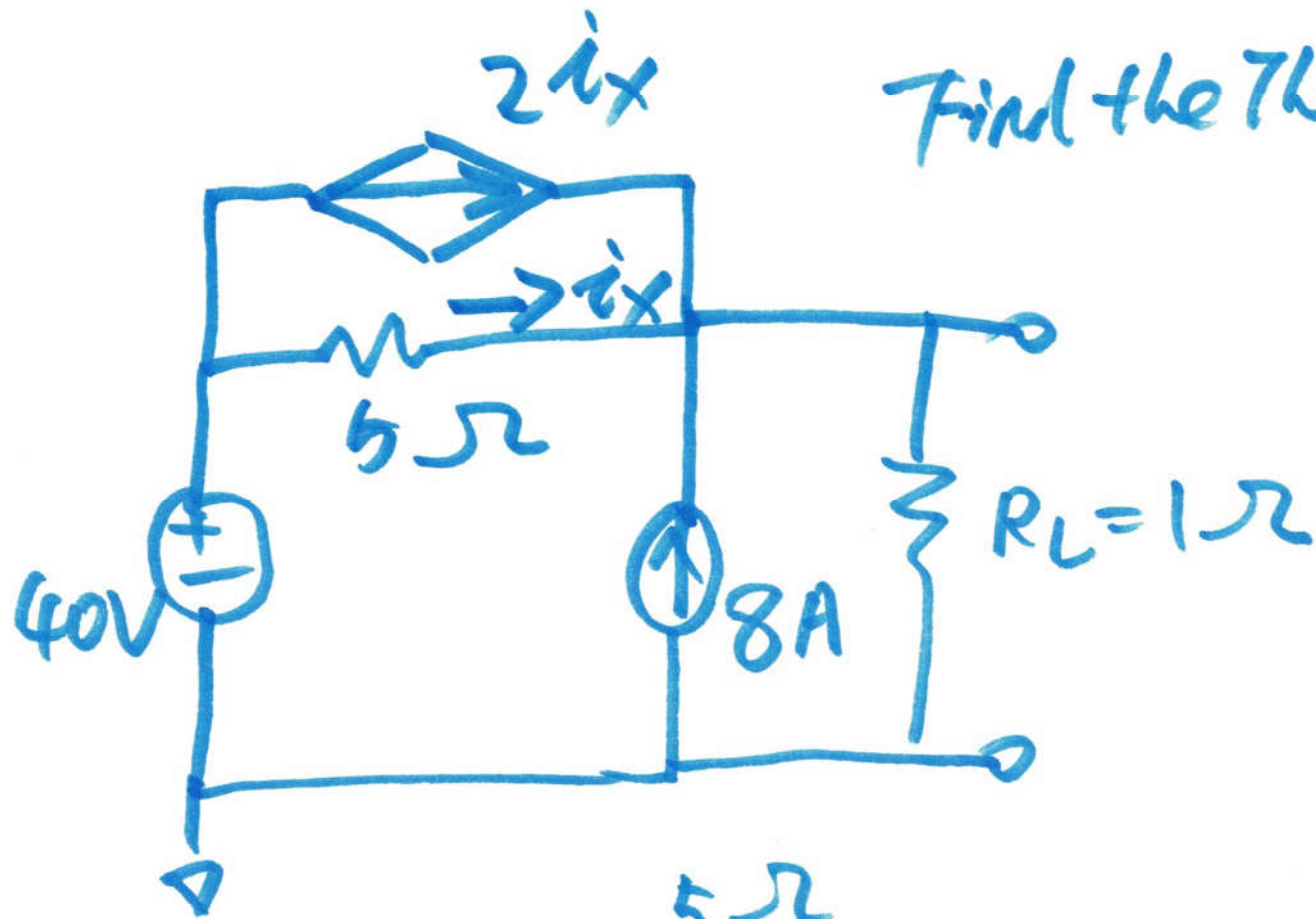
$$\textcircled{2} \rightarrow \textcircled{4} \quad \frac{i_2 - i_1}{0.4} = i_3 \cdot 2 \quad \textcircled{6}$$

$$\textcircled{3} \rightarrow \textcircled{1} \quad \text{get rid of } \sqrt{9} \quad \textcircled{7}$$

{
⑦
⑥
⑤

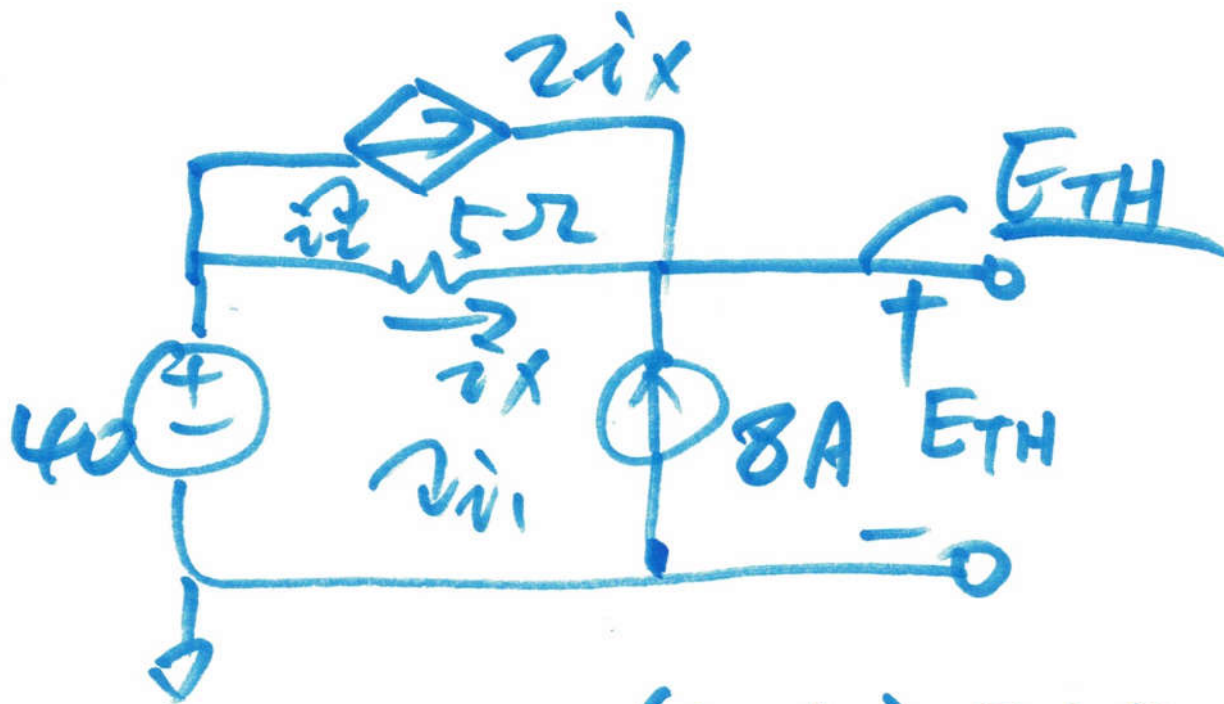
②

Find the Thevenin Equivalent



$$R_{TH} = 5\Omega$$

3



$$\begin{cases} -40 + (i_1 - i_2) \cdot 5 + E_{TH} = 0 \\ i_1 = -8A \\ i_2 = 2i_x \\ i_1 - i_2 = i_x \end{cases}$$