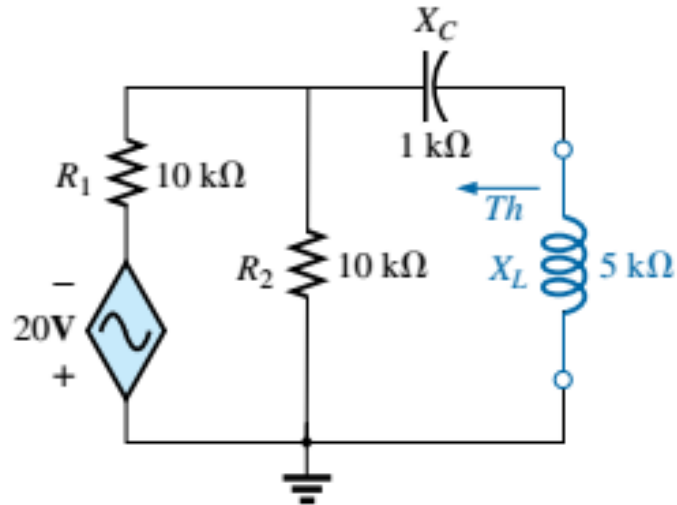


In Class Problem



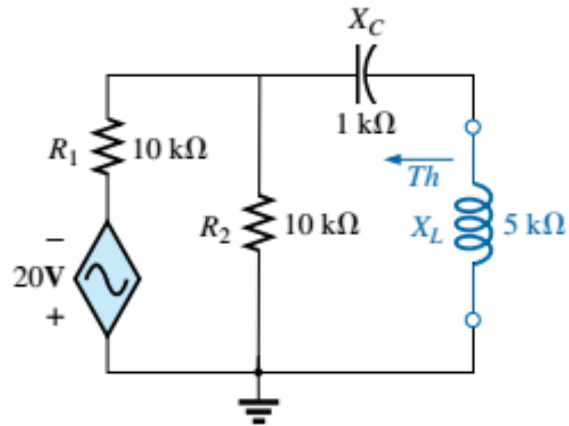
Find:

- The Thevenin equivalent circuit for the network external to the inductor

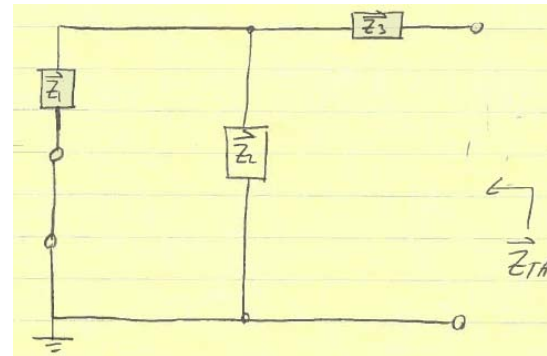
Approach:

- Standard Thevenin approach
 - Dependent source is controlled out of the network of interest

In Class Problem



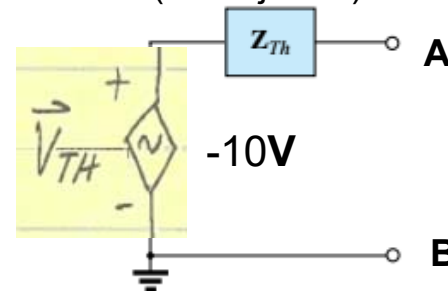
For Z_{TH} :



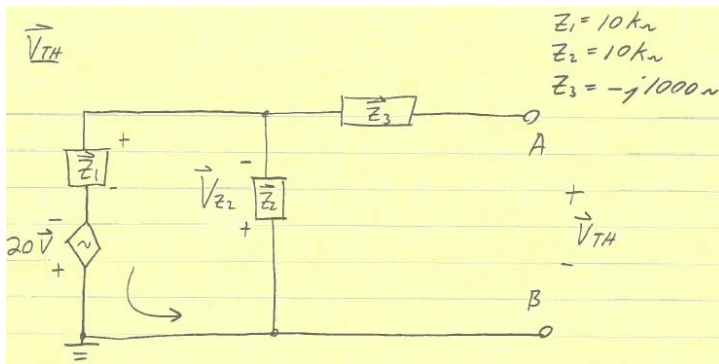
$$\vec{Z}_{TH} = (\vec{Z}_1 // \vec{Z}_2) + \vec{Z}_3$$

$$= [5000 - j1000] \Omega$$

(5000-j1000) Ohms



Or $Z_{TH} = 5\text{k}\Omega$ resistor in series with a capacitor with $X_C = 1000 \Omega$



$$\vec{V}_{Z2} = 20\vec{V} \left(\frac{\vec{Z}_2}{\vec{Z}_1 + \vec{Z}_2} \right)$$

$$= 20\vec{V} \left(\frac{10\text{k}\Omega}{20\text{k}\Omega} \right) = 10\vec{V}$$

$$\vec{V}_{TH} = -10\vec{V}$$