

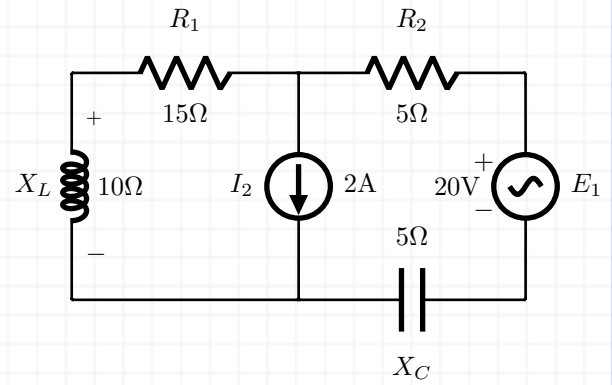
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**Problem 1:[20 points]**

Using **superposition**, find the voltage across  $X_L$  as indicated in Figure 1. [Phase angle for all sources is  $\angle 0^\circ$ ]

E1 On and I2 Off VL1=

**Figure 1**

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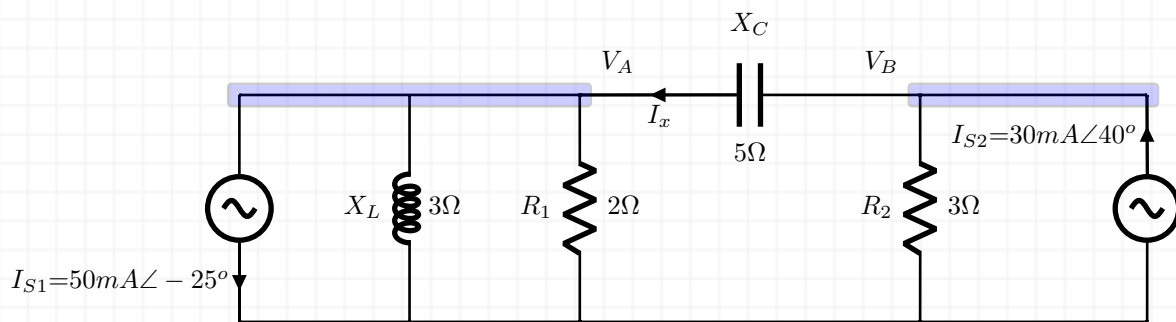
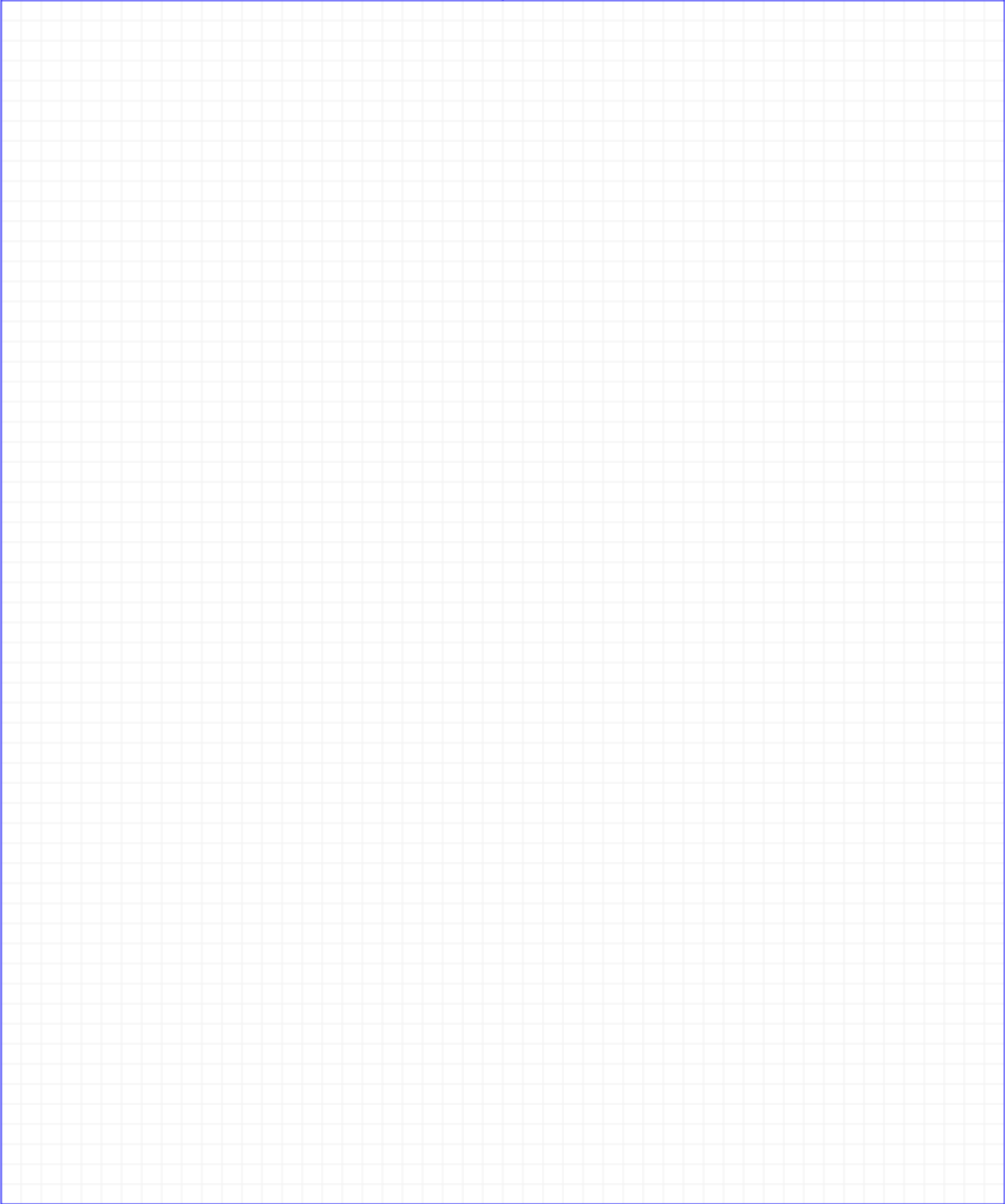
**Problem 2: [20 Points]**Using nodal general approach, find  $I_x = \frac{V_B - V_A}{Z_C}$  from Figure 2.

Figure 2

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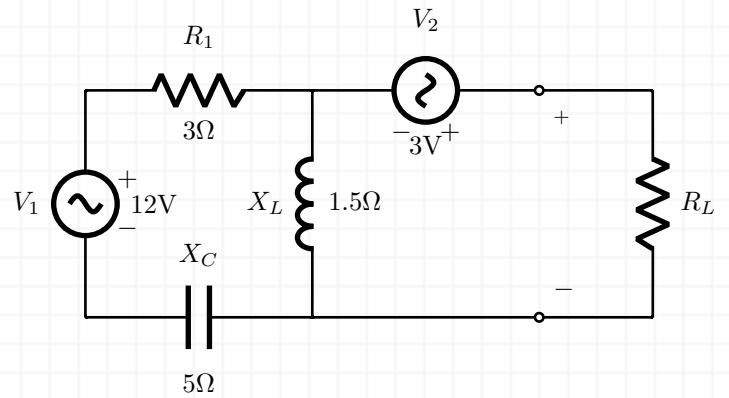


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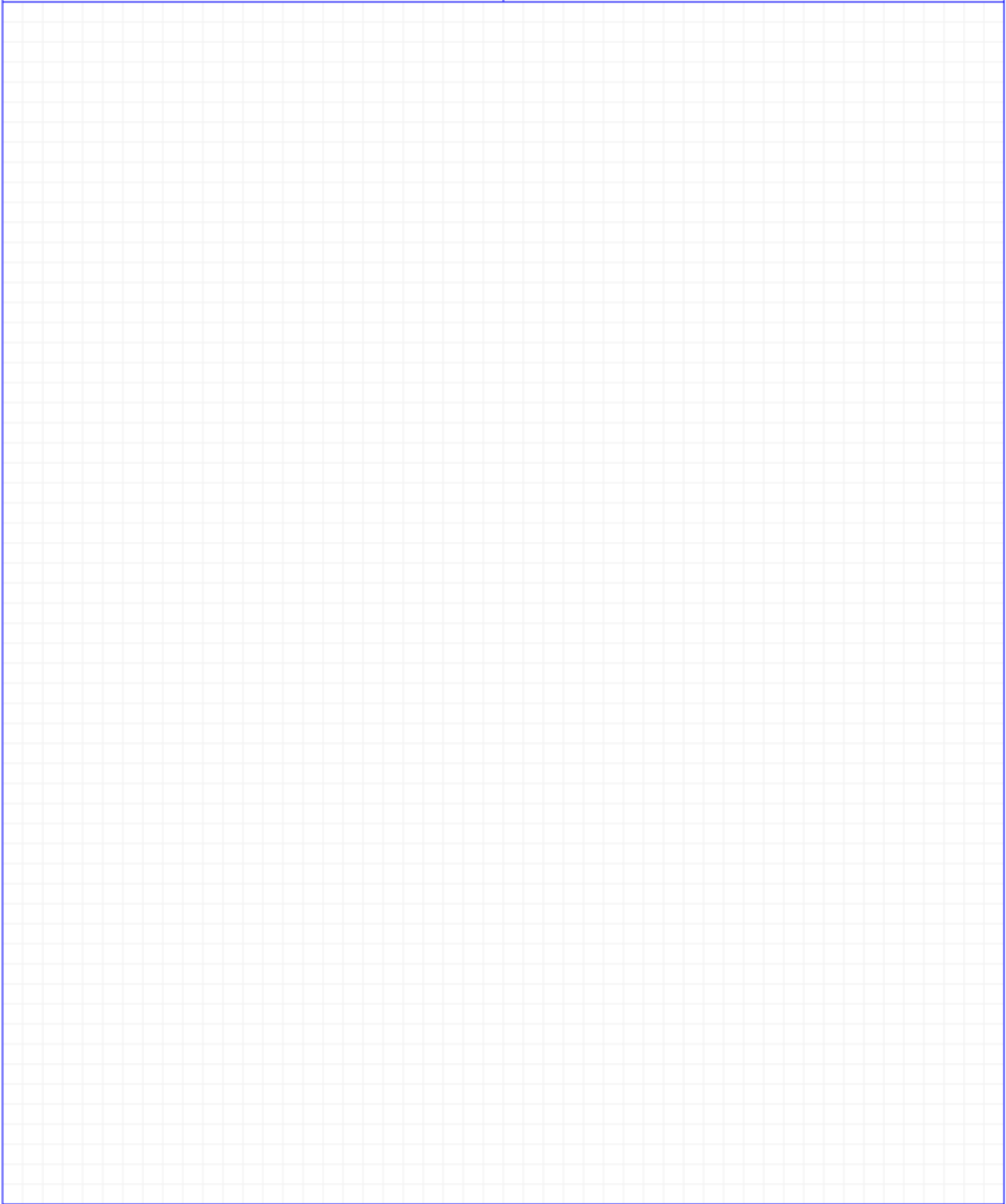
**Problem 3: [20 points]**

Find the **Thevenin** equivalent circuit of Figure 3. [Phase angle for all sources is  $\angle 0^\circ$ ]

**Figure 3**

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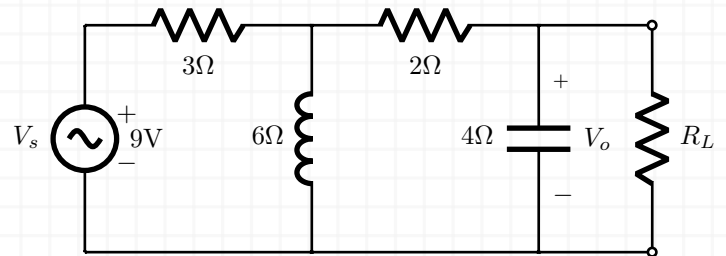
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**Problem 4: [20 points]**

Find the **Norton** equivalent circuit of Figure 4 from the point of view of  $V_o$ .

[Phase angle for all sources is  $\angle 0^\circ$ ]

**Figure 4**

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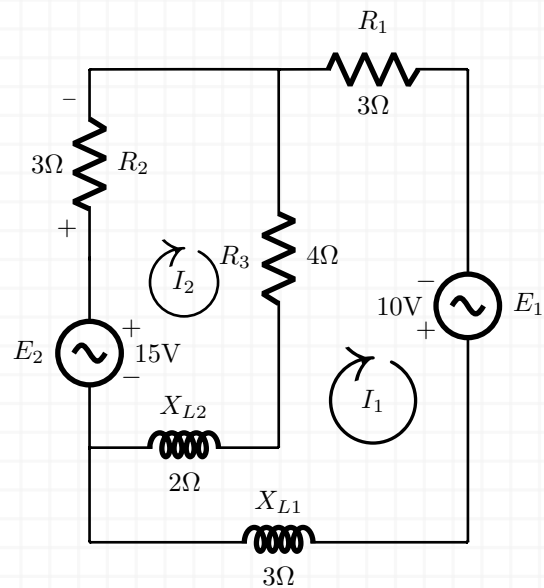
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**Problem 5: [20 points]**

Using mesh general approach, find the voltage across  $R_2$  in Figure 5.

«Note the polarity across  $R_2$ »

[Phase angle for all sources is  $\angle 0^\circ$ ]

**Figure 5**

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