Lab assignment 05
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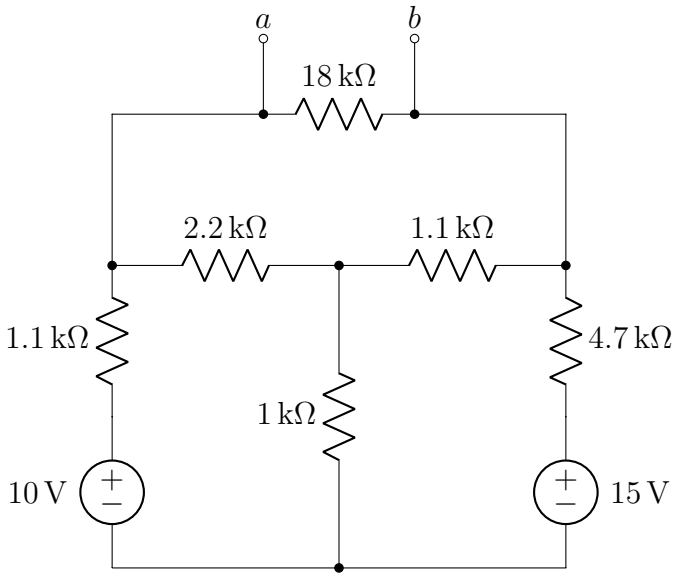
Thevenin/Norton

Exercise 1 - Thevenin and Norton equivalence



Pre-lab:

- Analytically determine the **Thevenin equivalent circuit** for terminals ab
- Analytically determine the **Norton equivalent circuit** for terminals ab

- Predict the theoretical voltages V_{ab} across terminals ab when a load resistor R_L is connected to the terminals
  Consider the following values for R_L: 100 Ω, 1 kΩ, 10 kΩ, and 100 kΩ

During the lab:

- Experimentally measure the open-circuit voltage V_{oc} across terminals ab
- Experimentally measure the short-circuit current I_{sc} through terminals ab
- Experimentally measure the equivalent resistor of terminals ab while zeroing-out all the sources
- Determine the **experimental Thevenin and Norton equivalent circuits**

- Connect different load resistors R_L to terminals ab and measure V_{ab} for each resistance value

- Wire the equivalent Thevenin circuit

- Connect different load resistors R_L to the equivalent circuit and measure V'_{ab} for each resistance value

- Discuss about your findings with the instructor