

Experiment 6

Topic: Experimenting the Thevenin and Norton Theory

I. Experimenting Thevenin Theory

1. Set up the circuit below. Measure the voltage and current at the resistor R_y .

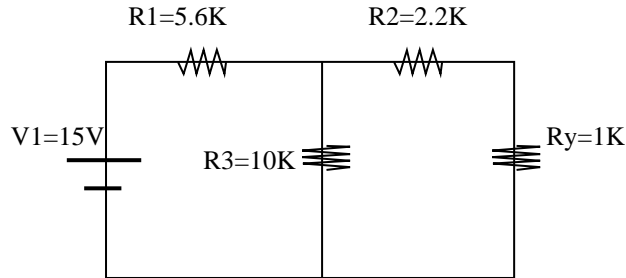


Fig. 1.

2. In order to find Thevenin equivalent of circuit remove the resistor R_y and measure Thevenin voltage.
3. Disconnect the V1 voltage supply and connect a shortcut instead. Measure Thevenin resistance.
4. Draw the equivalent Thevenin circuit, show voltage and resistor values.
5. Set up the equivalent Thevenin circuit. Connect the same load resistor ($R_y=1K$) to circuit you just set up. Measure the voltage and current at the resistor R_y .
6. Compare the measurement between 1 and 5. Are they same? Is the Thevenin theorem satisfied? Explain briefly.

II. Norton Teoreminin İncelenmesi

1. In order to find Norton equivalent of the circuit remove the resistor R_y and connect a shortcut instead. Measure the current at the shortcut. Is the measured current Norton current?
2. You have measured the equivalent resistor of the circuit at part I.
 - a) Draw the Norton equivalent of the circuit, show voltage and resistor values.
 - b) You have set up the Thevenin equivalent circuit. Can you set up Norton equivalent circuit easily? Why?