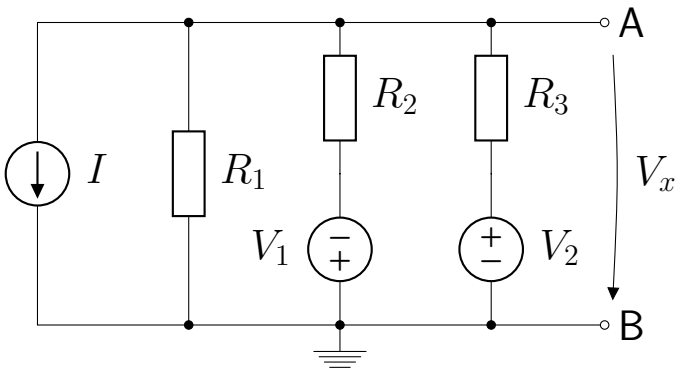
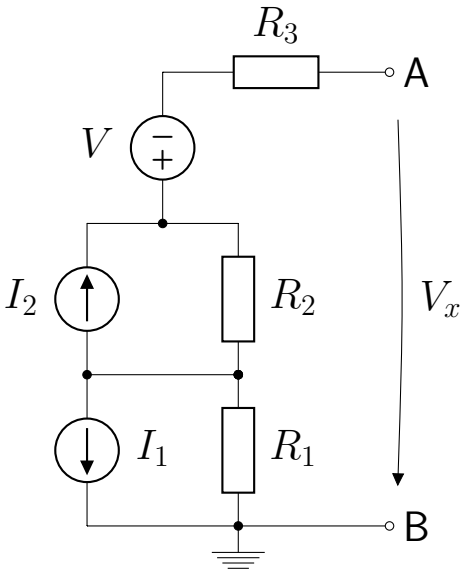
Seminars - 4th week

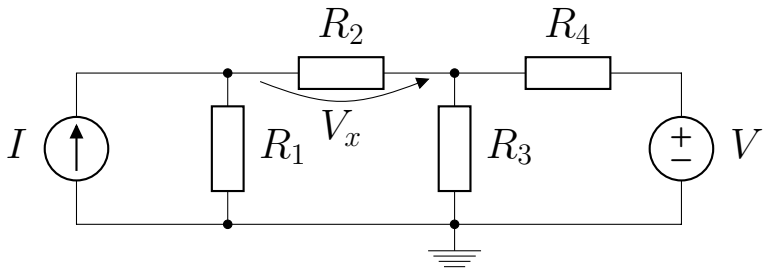
1. For the circuit in the figure below find voltage seen at terminals A-B, V_x. $V_1 = 8\,\text{V}$, $V_2 = 12\,\text{V}$, $I = 8\,\text{A}$, $R_1 = 8\,\Omega$, $R_2 = 1.6\,\Omega$, $R_3 = 2\,\Omega$.



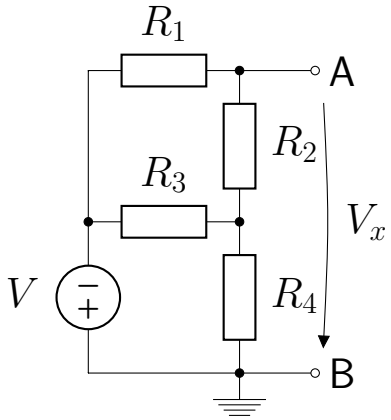
2. For the circuit in the figure below find voltage seen at terminals A-B, V_x. $V = 10\,\text{V}$, $I_1 = 2\,\text{A}$, $I_2 = 5\,\text{A}$, $R_1 = 8\,\Omega$, $R_2 = 6\,\Omega$, $R_3 = 10\,\Omega$.



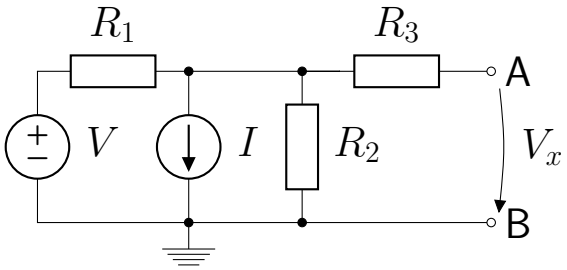
3. For the circuit in the figure below find voltage V_x. $V = 60\,\text{V}$, $I = 0.2\,\text{A}$, $R_1 = 360\,\Omega$, $R_2 = 400\,\Omega$, $R_3 = 400\,\Omega$, $R_4 = 600\,\Omega$.



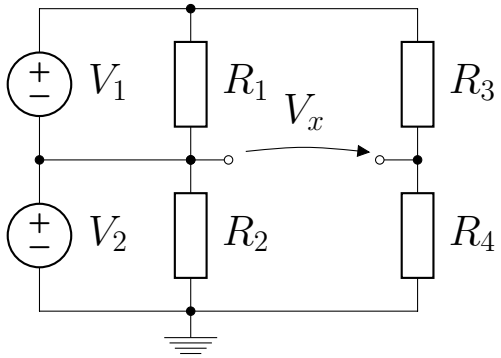
4. For the circuit in the figure below find its Thevenin equivalent circuit seen at terminals A-B. V = 10 V, R_1 = 1 kΩ, R_2 = 2 kΩ, R_3 = 2 kΩ, R_4 = 4 kΩ.



5. For the circuit in the figure below find its Thevenin equivalent circuit seen at terminals A-B. V = 20 V, I = 10 mA, R_1 = 2 kΩ, R_2 = 8 kΩ, R_3 = 2.4 kΩ.



6. For the circuit in the figure below calculate currents, delivered to the circuit by both voltage sources. Next, calculate the voltage V_x.


V_1
R_1
V_x
R_3
V_2
R_2
R_4