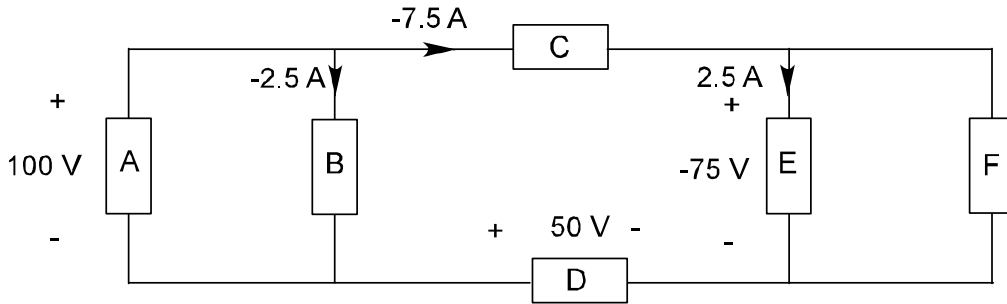
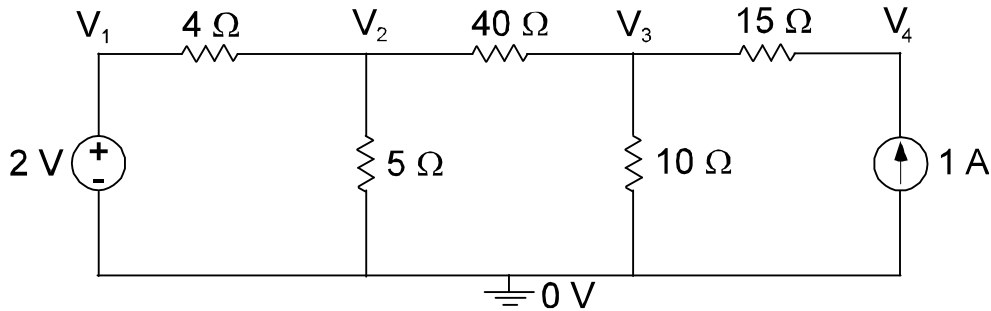


ECE203—DC Circuits Review for Test 1

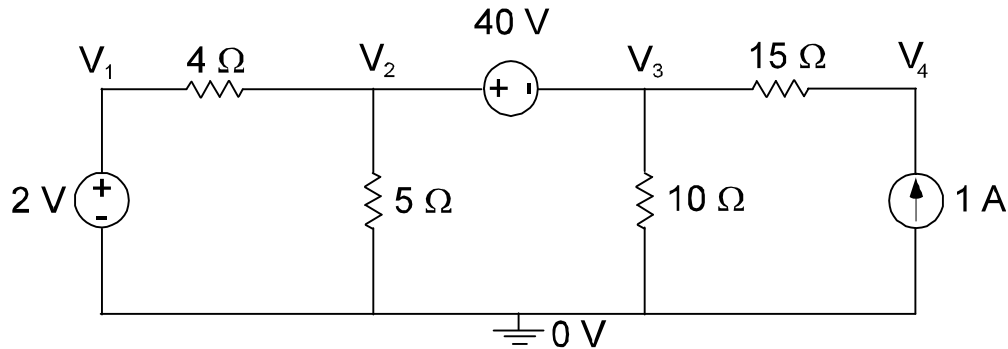
1. Determine the power dissipated in each element.



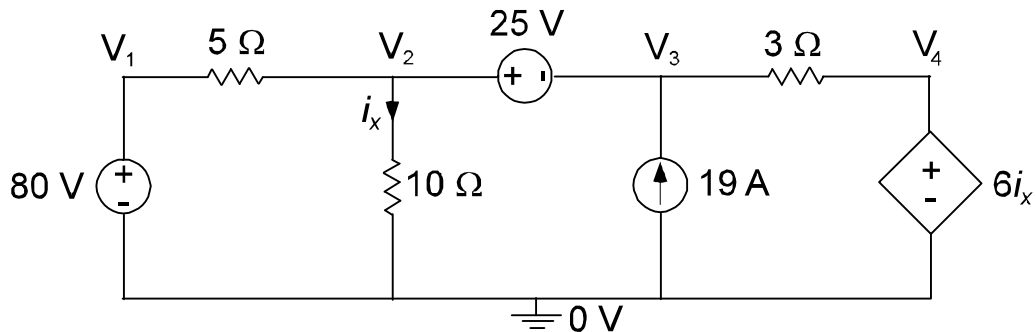
2. Solve for all nodal voltages using:
a) KCL only b) KVL only



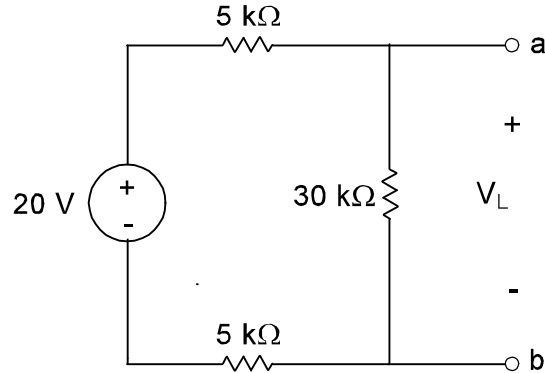
3. Solve for all branch currents using:
a) KCL only b) KVL only



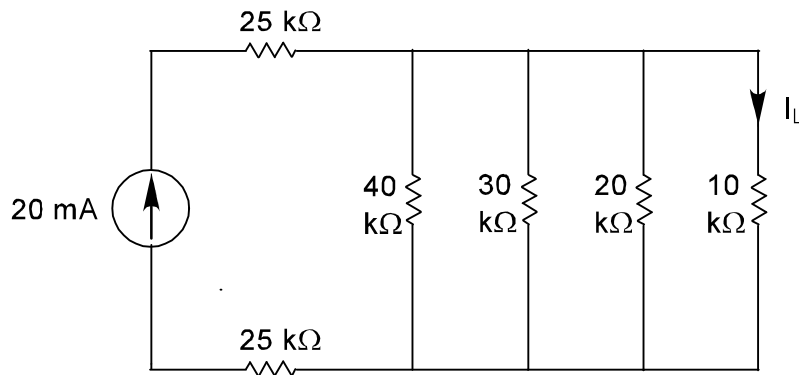
4. Solve for all nodal voltages and the current i_x using:
a) KCL only b) KVL only



5. In the circuit shown below, a $15\text{ k}\Omega$ load resistor is connected across the output terminals, a-b. Apply voltage division to determine the load voltage, V_L .



6. In the circuit shown below, apply current division to determine the load current, I_L .



7. This circuit represents a 24 V battery with an internal resistance of $1.5\ \Omega$. A load resistance of $8.5\ \Omega$ is connected across the terminals.
- a) What does the terminal voltage drop to?
- b) A second load resistor (R_x) is connected in parallel with the first resistor and the terminal voltage is measured at 6 V . What is the value of R_x ?

