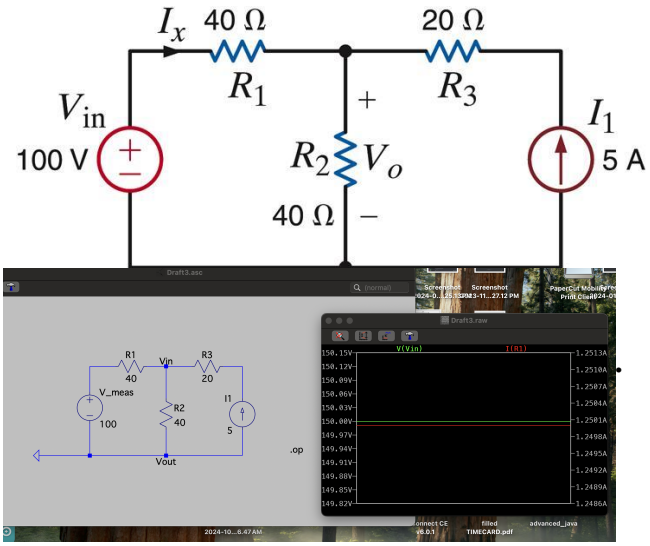
Datasheet for Lab 3: DC Simulation

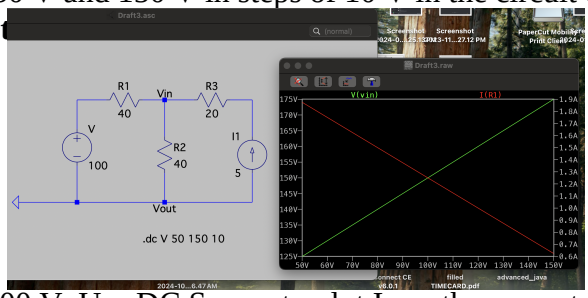
Name(s): Julian Robin, Deivi Velasquez Date: 2/4/25

If you are working with a partner, make sure to trade off so that each of you gets practice.

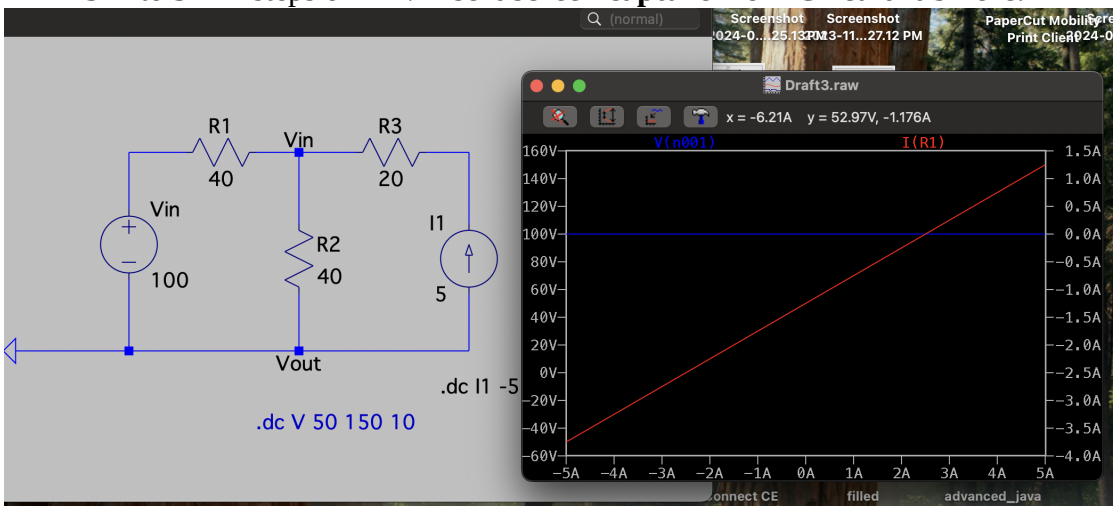
1. Use CircuitLab to find Vo and Ix in the circuit below. Make sure you label the components exactly as they are shown. You should find that Vo = 150 Volts and Ix = -1.25 Amps. Take a screen capture of your circuit showing the simulation results and add to your lab report.



2. Now use the DC Sweep feature of CircuitLab to plot V_O as the voltage V_{IN} is varied between 50 V and 150 V in steps of 10 V in the circuit of Problem 1. Keep I_1 at 5 A. **Insert**

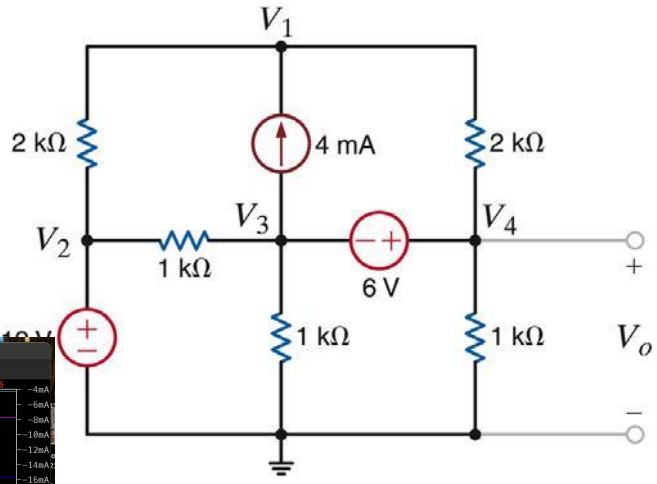


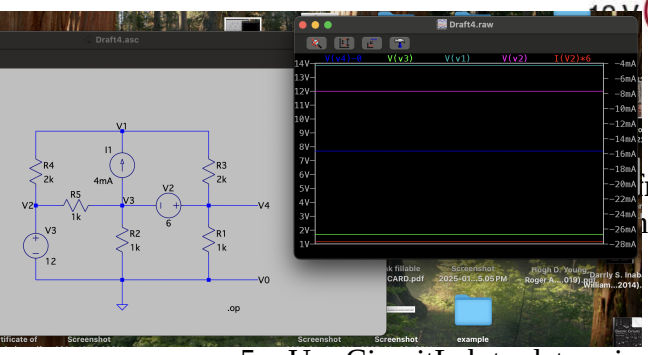
3. Now set V_{IN} = 100 V. Use DC Sweep to plot I_X as the current I_1 is varied from -5 A to 5A in steps of 1 A. **Insert screen capture from CircuitLab here.**



4. Use CircuitLab to find V_O and the power supplied by the 6-V source in the circuit below. Make sure to label your elements exactly as shown in the circuit. Add a label for all nodes V_O through V_4. Show all these node voltages in the DC Solver.

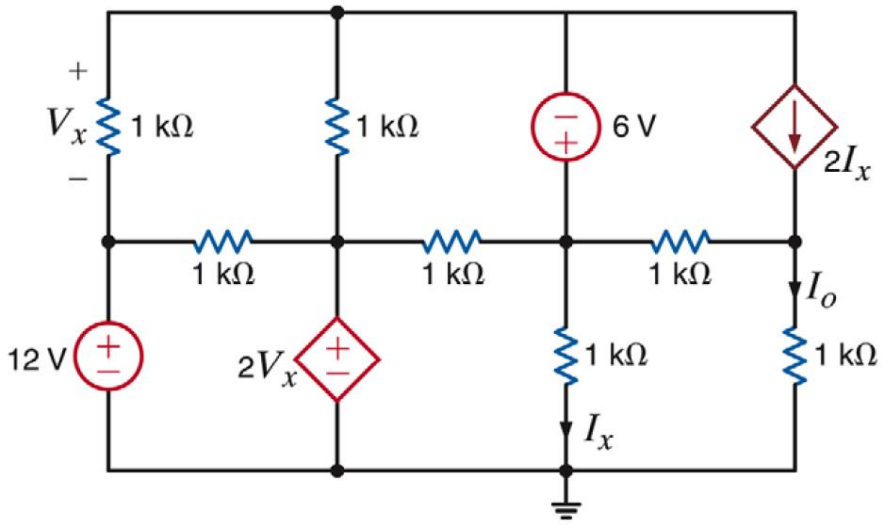
   Add an expression for the DC Solver to compute the power of the 6V source. This will involve the current flowing into the + terminal of the 6V source, multiplied by 6.





rom CircuitLab here, with the node voltages and power g in the DC Solver pane**.**

5. Use CircuitLab to determine ***Io*** for the following circuit. Include a screen capture showing the current in the DC Solver pane.



Insert screen capture from CircuitLab here, showing current ***Io*** in the DC Solver pane.