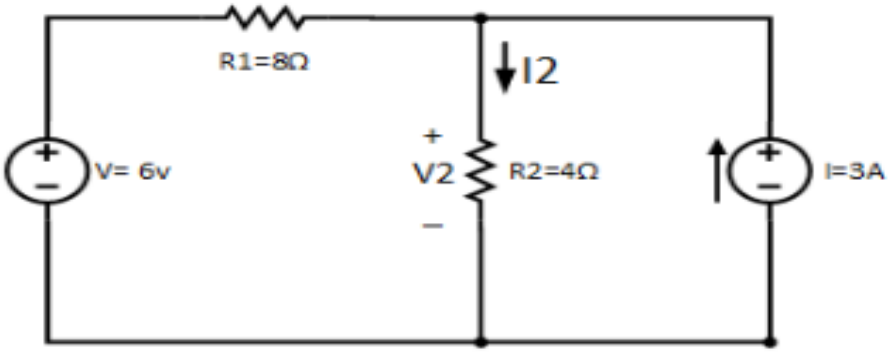
Deadline: 05. 11. 2019

ECE 281 - Electrical Circuits And Instrumentation + LAB

LABORATORY HOMEWORK 2

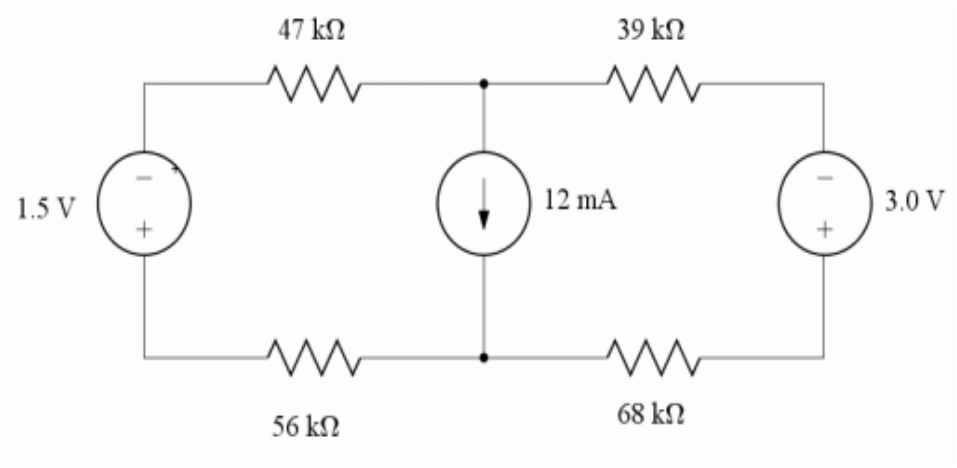
Question 1)



A) Find the value of voltage V_2 across R_2 using Superposition Theorem in the above circuit.

B) In the above circuit, Measure the voltage V_2 and the current I_2 across R_2 in the ORCAD program, and Write the values that you measured in the ORCAD program.

Question 2)

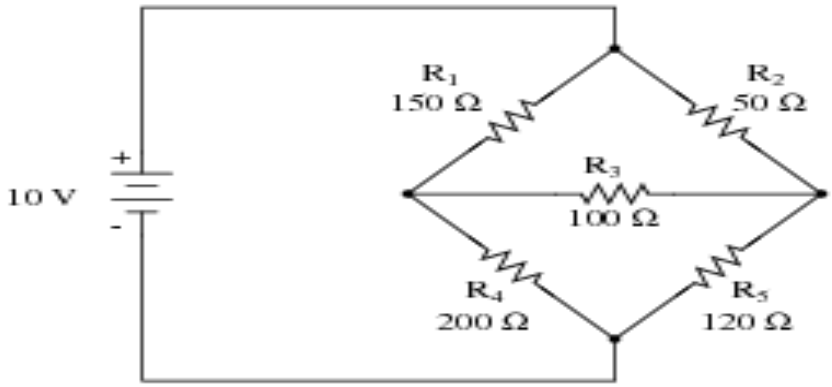


A) How many meshes does this circuit have ?

B) Use the mesh current analysis to find the power associated with each voltage source, theoretically.

C) In the above circuit, Measure all voltages, currents , and power in the ORCAD program, and Write the values that you measured in the ORCAD program.

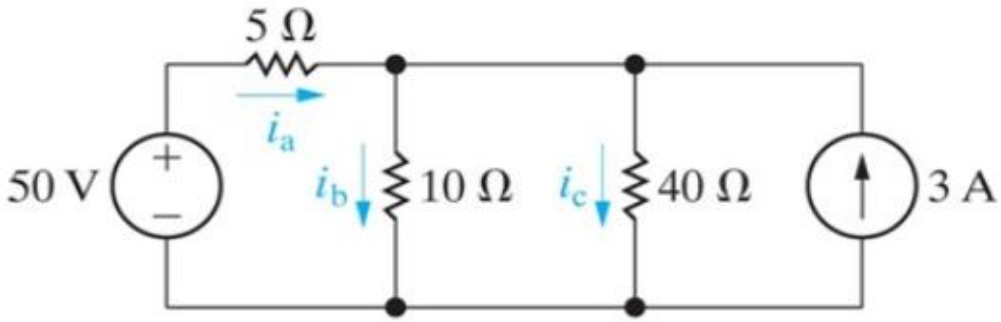
Question 3)



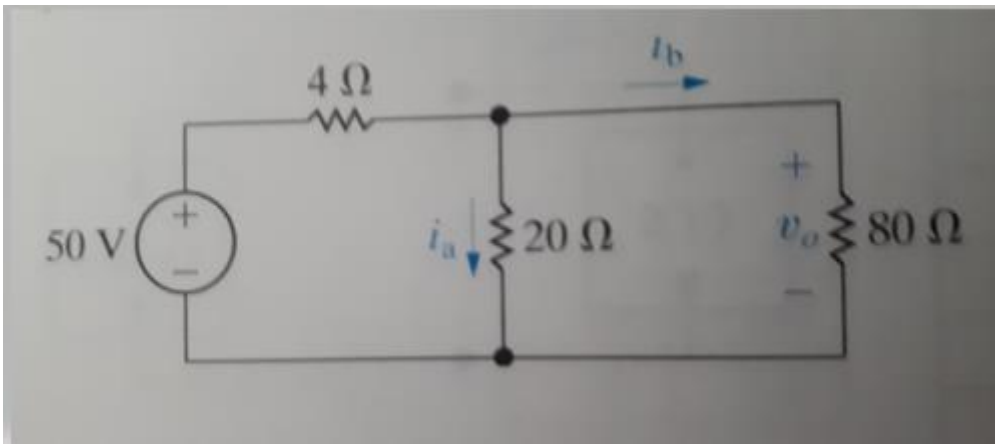
A) How many meshes does this bridge circuit have ?

B) Using the mesh current method, Calculate all currents in the above circuit, theoretically.

Question 4) Use the Node- Voltage Method of circuit analysis to find the branch currents in the following circuit.



Question 5)



A) In the above circuit, Find the values of i_a, i_b, V_0, the power dissipated at each resistor and the power supplied by 50 Volt source.

B) In the above circuit, Measure the values that we found in the option A in the ORCAD program and Write the values that you measured in the ORCAD program.