Name _____

EE 2240

Exam #2

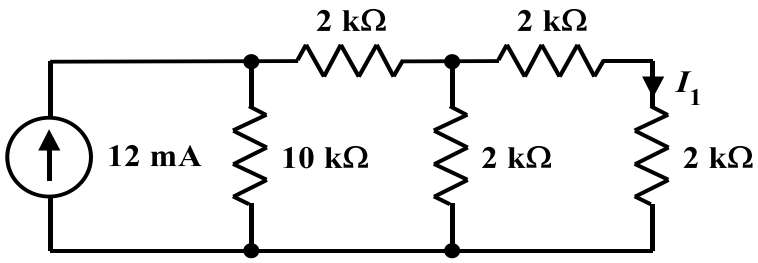
Thursday, October 26, 2017

LIBR B32 and TAB 115, 9:30AM – 10:45AM

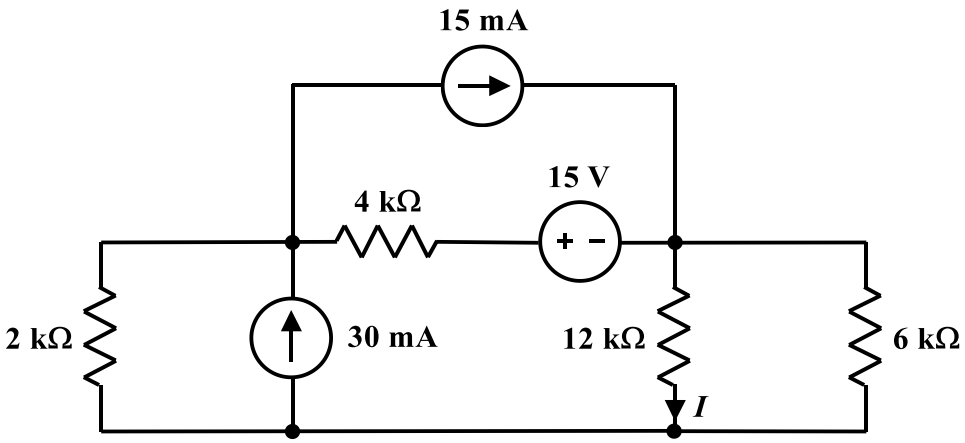
[closed book – one two-sided 8½"×11" page of notes and calculator allowed, nothing else]

Work must be shown in a neat and orderly fashion if you expect to earn partial credit. Clearly define any and all new variables you use in your solutions.

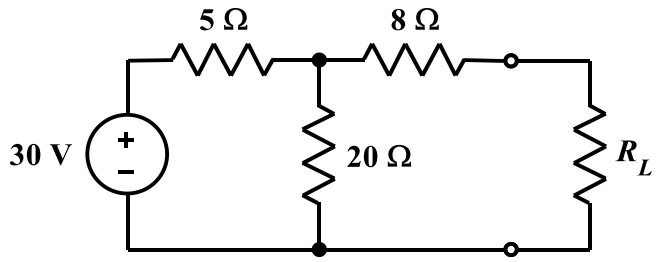
1. [Linearity and Proportionality] Determine the value of I_1.



2. [Superposition] Perform **one part** of the superposition analysis needed to determine I by finding the contribution from the 30-mA independent current source.



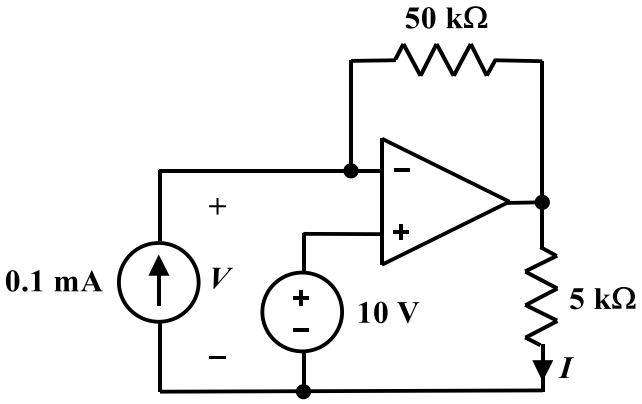
3. [Thévenin/Norton Equivalent Circuits, Source Transformations and Maximum Power Transfer] For the circuit shown below:



a. What value of R_L will absorb maximum power?

b. How much power will it absorb?

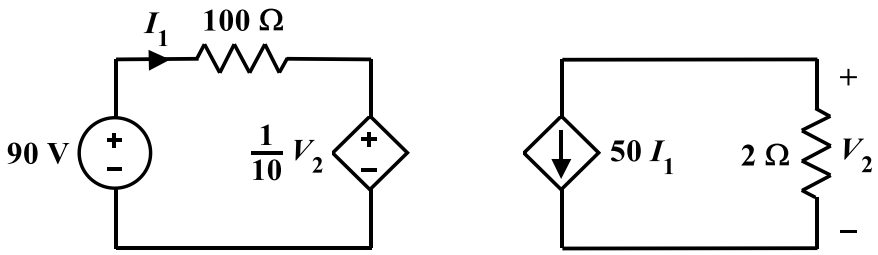
4. [Operational Amplifiers] For the circuit shown below, assume an ideal OpAmp and:



a. Find V .

b. Find I .

5. [Controlled Sources] For the circuit shown below:



a. Determine the value of I_1.

b. Determine the value of V_2.