EE 210 **Sept. 4, 2018**
Exam 1 Review **Dr. Blandford**

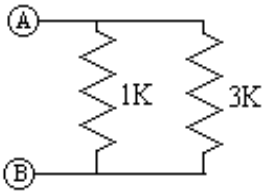
1. The exam will be approximately 1 hour long.

2. Open ended questions requiring a written answer.
   Questions in this group will test your understanding of the concepts presented in the chapters covered.

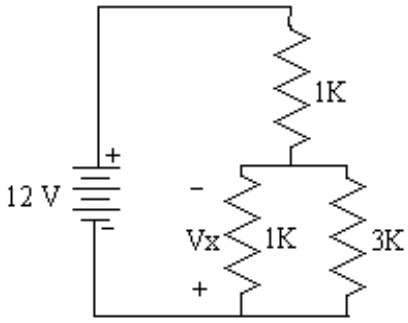
   Sample Questions:
   1. What is voltage? Write a brief description and give an analogy.
   2. How is voltage related to power? to energy?
   3. If negative current flow is the movement of electrons, what is positive current flow?

3. Short answer problems.
   Questions in this group will require a relatively simple calculation and will have a single numerical answer.

   Sample Questions:
   1. Find the equivalent resistance for the circuit below.



   2. Find the voltage V_x



4. Analysis problems.

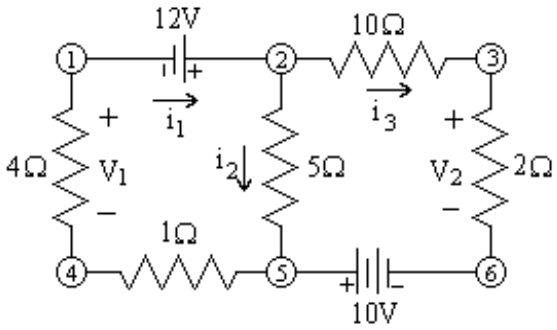
Questions in this section may have multiple parts and will require the use of Ohm's law, KCL, KVL, and/or circuit reduction techniques.

Sample Questions

1. For the circuit below

A) Write KCL for nodes 2 and 5.

B) Write KVL for the loop 1,2,3,6,5,4,1.

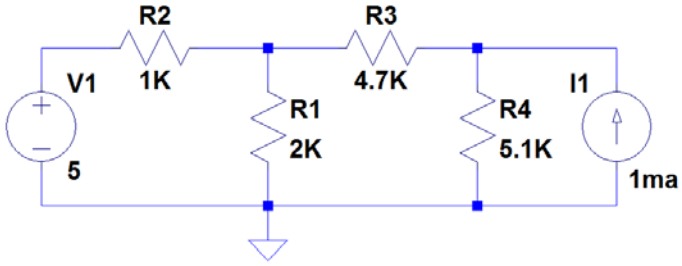


2. How many nodes, branches, and independent loops are in the following circuit?

A) Nodes = _____

B) Branches = _____

C) Independent Loops = _____

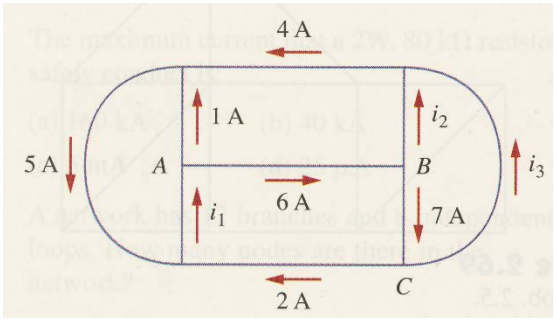


3. Find i_1, i_2, and i_3 in the following circuit.

A) i_1 = _____

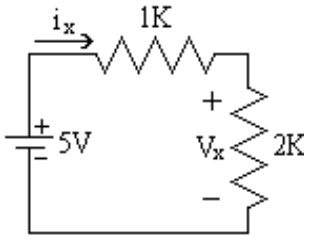
B) i_2 = _____

C) i_3 = _____



4. Find the current i_x and the voltage v_x in each of the following.

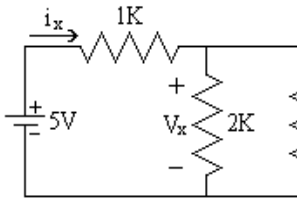
A)



i_x = _____

v_x = _____

B)



i_x = _____

v_x = _____

5. The circuit below has been solved. If the value of i_1 was found to be 0.692 amps, what is the value of V_1, V_2, and i_3? V_1 = _____ V_2 = _____ i_3 = _____