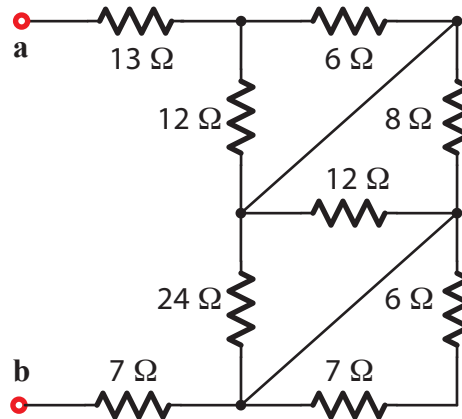


University of Calgary
Department of Electrical and Computer Engineering
ENGG 225 - Fundamentals of Electrical Circuits and Machines
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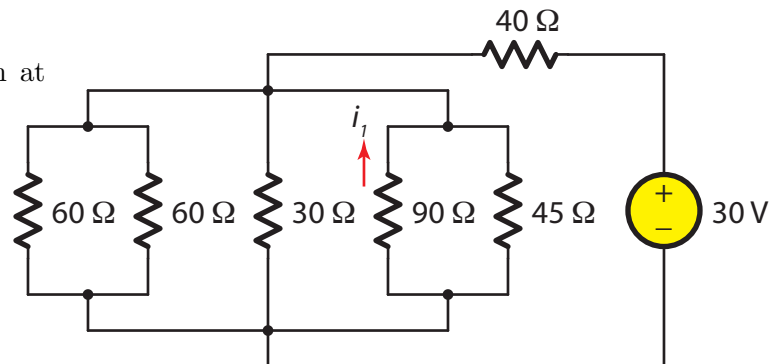
Problem Assignment #2

In solving the problems in this assignment, use series-parallel resistor combinations, current division, and voltage division.

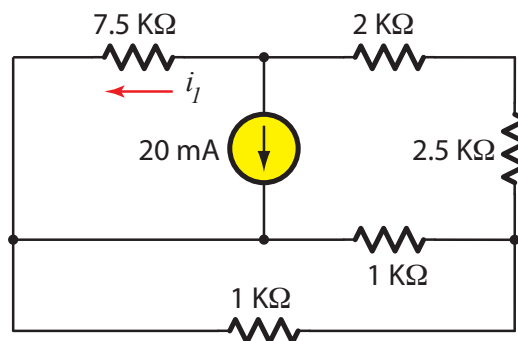
1. [2 marks.] Determine the total equivalent resistance R_{eq} between the terminals **a** and **b** in the circuit at right.



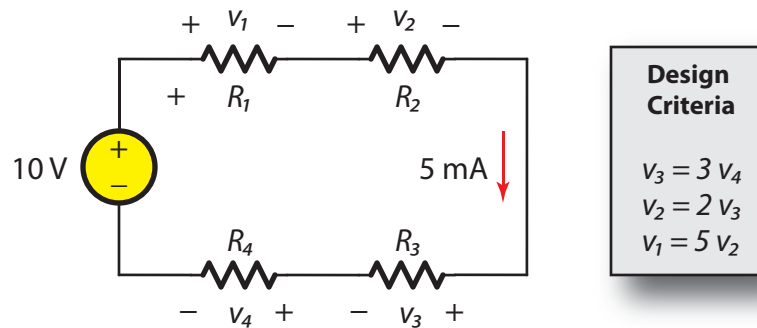
2. [1 mark.] In the circuit shown at right, determine the current i_1 .



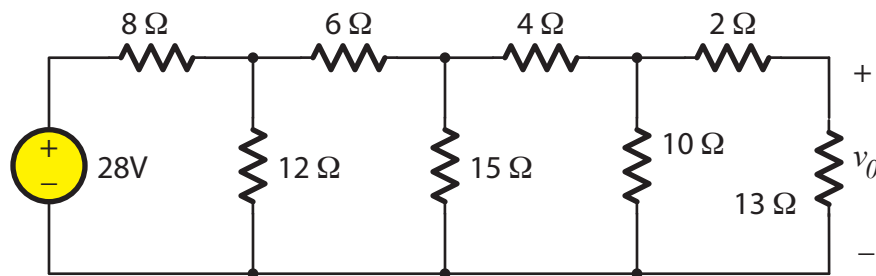
3. [1 mark.] In the circuit shown at right, determine the current i_1 .



4. [2 marks.] Calculate the resistance value for R_1 such that the design criteria indicated in the circuit below is satisfied.



5. [2 marks.] In the circuit below, determine the voltage v_0 .



6. [2 marks.] In the circuit below, the 24-Volt source provides 60 mA of current, and Devices 1 and 2 each absorb the amount of power indicated. Determine the resistance R_2 such that Device 1 has the correct voltage.

