



The Ohio State University
Department of Electrical Engineering

ECE 205

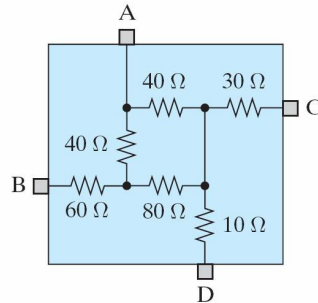
Circuit Analysis

Home work Set # 2

Print Your Name

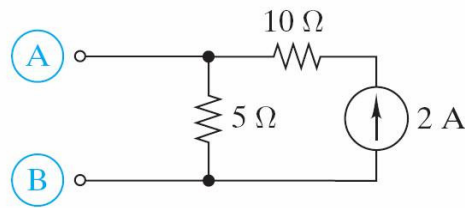
Problem#1: Problem 2-31 textbook

Find the equivalent resistance between terminals A-B, A-C, A-D, B-C, B-D, and C-D.



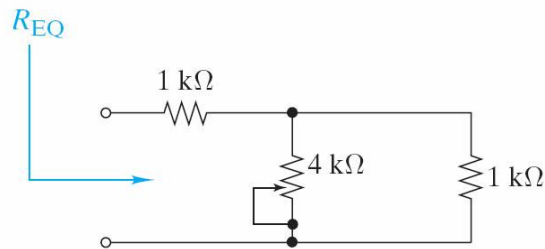
Problem#2: Problem 2-34 textbook

Find the equivalent practical voltage source at terminals A and B.



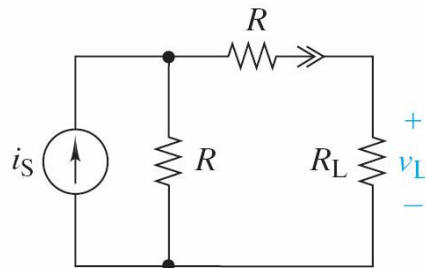
Problem#3: Problem 2-39 textbook

What is the range of R_{EQ} ?



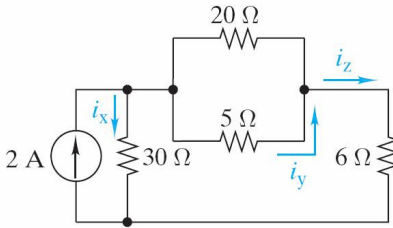
Problem#4: Problem 2-42 textbook

Use the current division to obtain an expression for V_L in terms of R and R_L and i_s .



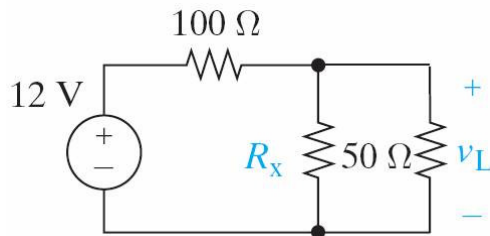
Problem#5: Problem 2-43 textbook

Find i_x in the given circuit.



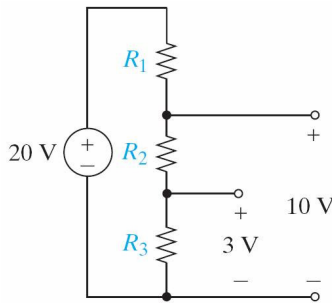
Problem#6: Problem 2-50 textbook

Select a positive value for R_x so that $v_L = 6$ V.



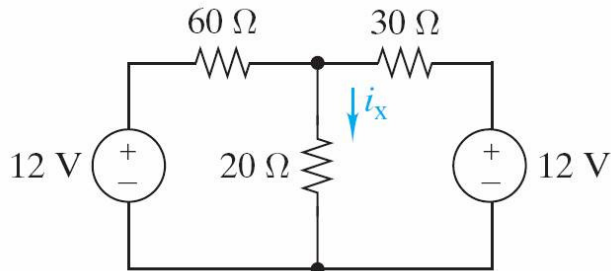
Problem#7: Problem 2-48 textbook

Select the values of R_1 and R_2 and R_3 so that the voltage divider produces the shown output voltages.



Problem#8: Problem 2-56 textbook

Use source transformation to find i_x .



Problem#9: Problem 2-60 textbook

The box in the circuit is a resistor whose value can be anywhere between $8\text{ k}\Omega$ and $80\text{ k}\Omega$. Write a MATLAB program to find the range of values of v_x using circuit reduction.

