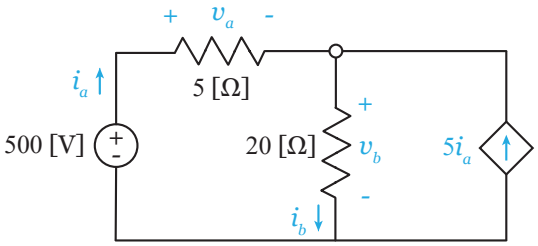
Kirchoff's Laws Worksheet

MEMS 0031 - Electrical Circuits

May 13, 2020

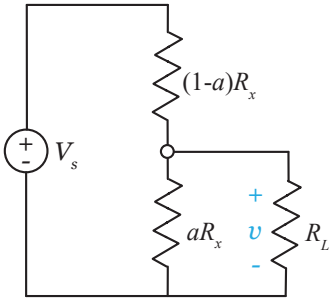
Problem #1 - Lecture 3

For the circuit shown below, determine the currents i_a and i_b and voltage potentials v_a and v_b. What is the voltage potential across the CCCS?



Problem #2 - Lecture 4

For the circuit shown below, determine the current through each resistor and the voltage v across the load resistance R_L when V_s=15 [V], R_x=100 [Ω], a=0.36 and R_L=150 [Ω].



Problem #3 - Lecture 5

In the circuit below, using KCL and KVL, construct a system of equations that allows you to solve for the current flowing through each element. Additionally, solve for i_a symbolically, in terms of all other circuit variables.