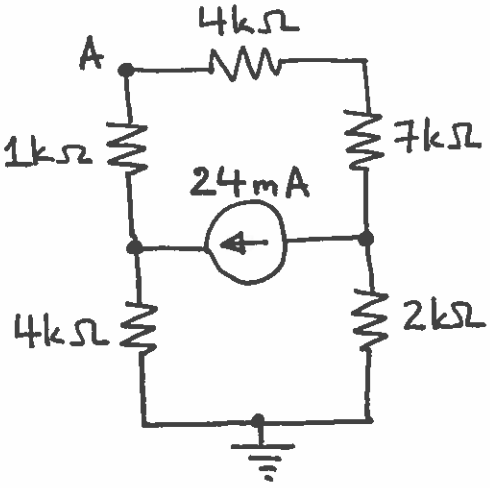
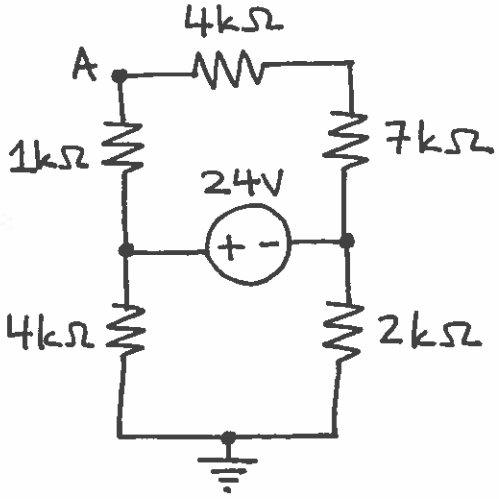
EE 261

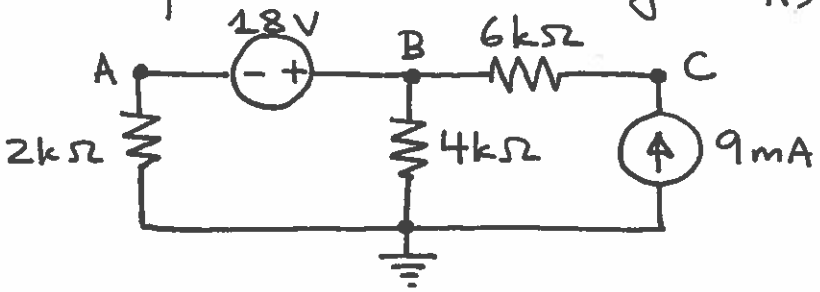
HOMEWORK #3

(1) For each circuit shown, find the node voltage V_A.

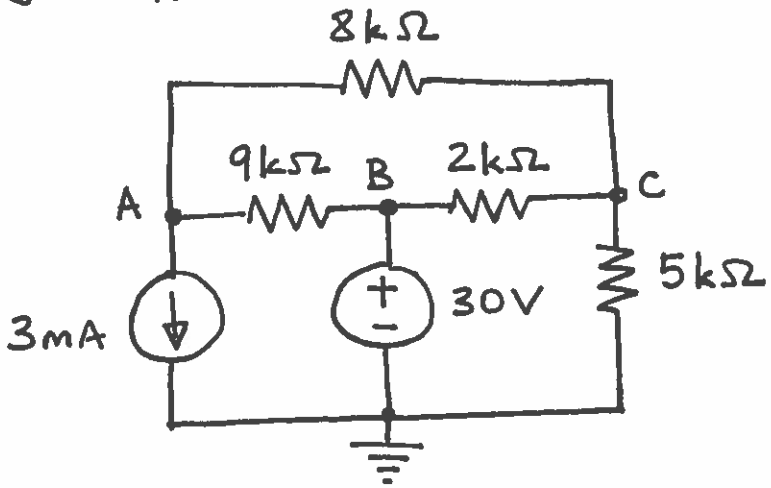




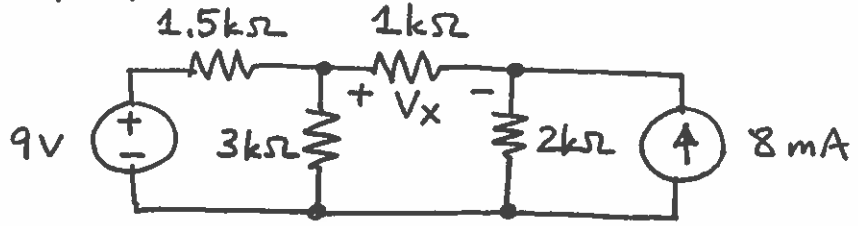
(2) For the circuit shown below, find the values of the node voltages V_A, V_B, and V_C.



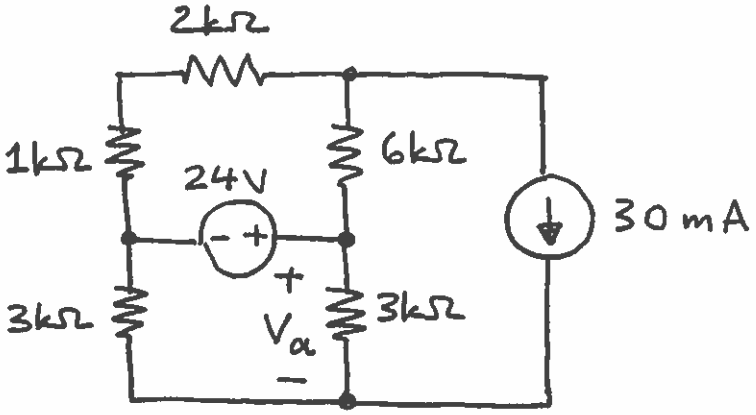
(3) For the circuit shown below, find the node voltages V_A, V_B, and V_C.



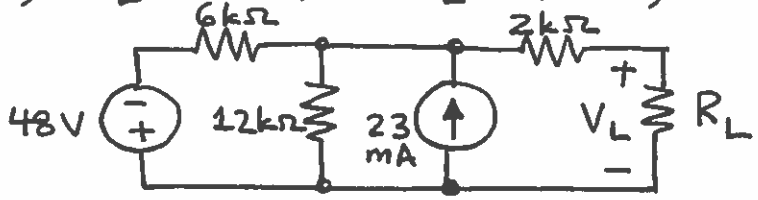
(4) For the circuit shown, find the voltage V_x across the 1 kΩ resistor using (a) source transformation; (b) superposition principle.



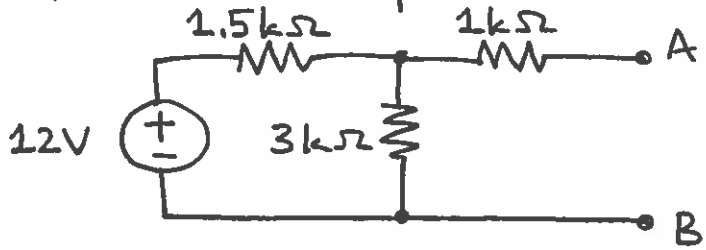
(5) For the circuit shown, find the voltage V_a.



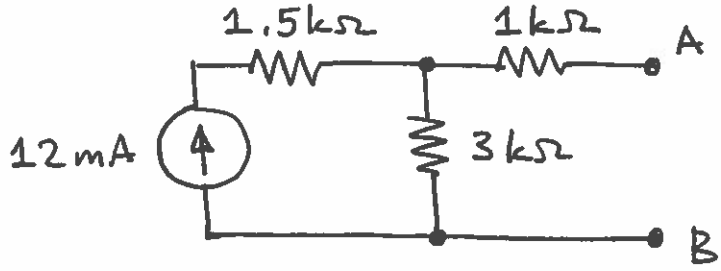
(6) For the circuit shown, find the load voltage V_L for the following values of load resistor R_L: (a) $R_L = 2\,k\Omega$; (b) $R_L = 4\,k\Omega$; and (c) $R_L = 6\,k\Omega$.



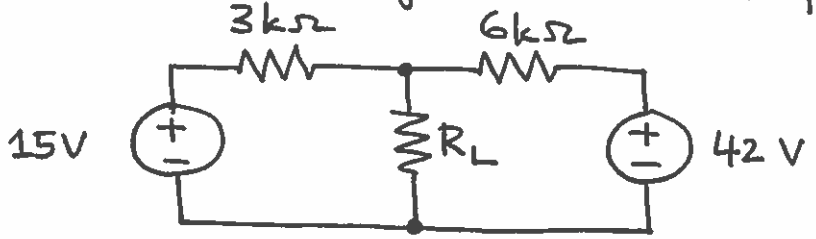
(7) For the circuit shown, find (a) the load resistor R_L to be connected between terminals A-B so that it receives maximum power from the circuit; (b) the maximum power received by R_L.



(8) For the circuit shown, find (a) the value of R_L to be connected between A-B terminals so it receives maximum power; (b) the maximum power received by R_L found in part (a).



(9) For the circuit shown, find (a) R_L so that it receives maximum power; (b) the maximum power received by R_L found in part (a).



(10) For the circuit shown, find (a) R_L so that it receives maximum power; (b) the maximum power received by R_L found in part (a).

To be connected between A-B