

Homework #4

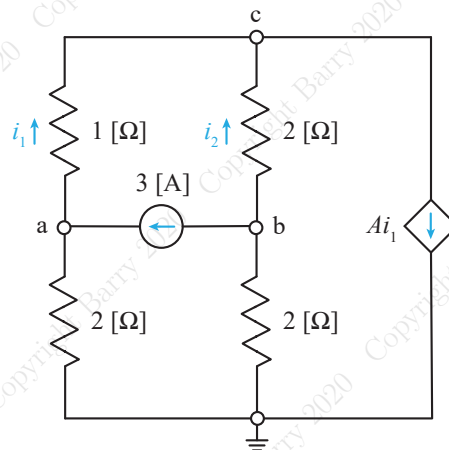
MEMS 0031 - Electrical Circuits

Assigned: May 28th, 2020

Due: June 3rd, 2020 at 11:59 pm

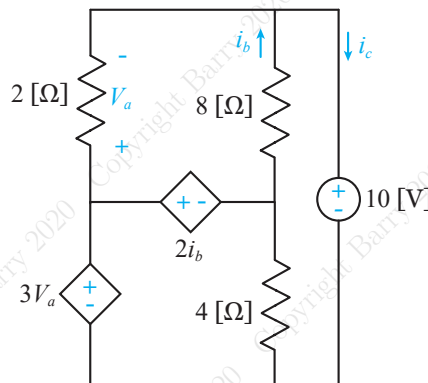
Problem #1

Using Node Voltage Analysis (NVA), determine the currents i_1 and i_2 , and the voltages at nodes a, b and c, given $A = 4$. Note: if you use any other method than NVA to determine branch currents, i.e. currents through the resistors, your answer will be marked incorrect.



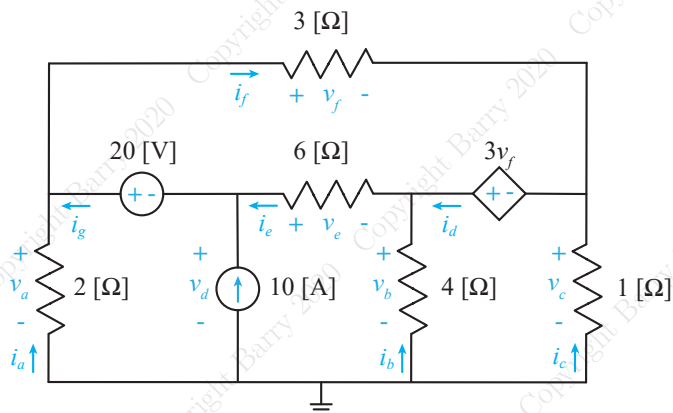
Problem #2

Using Node Voltage Analysis (NVA), determine the currents i_b and i_c , and the voltages potential V_a . Note: if you use any other method than NVA to determine branch currents, i.e. currents through the resistors, your answer will be marked incorrect.



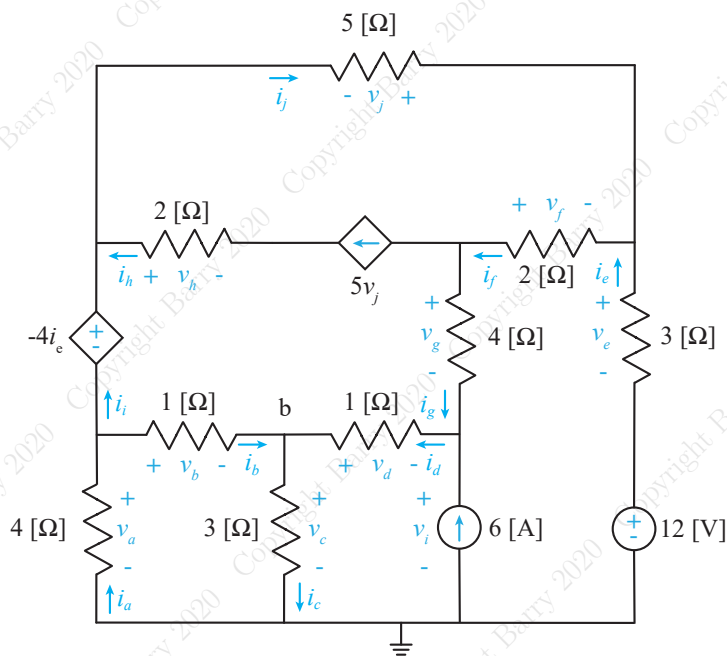
Problem #3

Using Node Voltage Analysis (NVA), determine the currents i_a through i_g . Note: if you use any other method than NVA to determine branch currents, i.e. currents through the resistors, your answer will be marked incorrect.



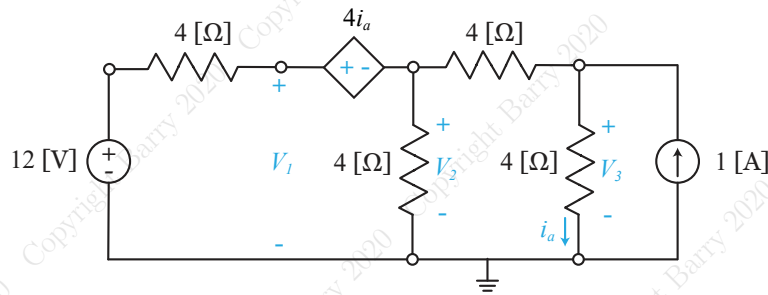
Problem #4

Using Node Voltage Analysis (NVA), determine the currents i_a through i_j . Note: if you use any other method than NVA to determine branch currents, i.e. currents through the resistors, your answer will be marked incorrect.



Problem #5

Using Node Voltage Analysis (NVA), determine the voltage potentials V_1 through V_3 . Note: if you use any other method than NVA to determine branch currents, i.e. currents through the resistors, your answer will be marked incorrect.



Problem #6

Using Node Voltage Analysis (NVA), determine the voltage potential V_θ given $R = 6\ \Omega$. Note: if you use any other method than NVA to determine branch currents, i.e. currents through the resistors, your answer will be marked incorrect.

