Homework #5

MEMS 0031 - Electrical Circuits

Assigned February 8$^{\text{th}}$, 2019
Due February 15$^{\text{th}}$, 2019

Problem #1

Use Node Voltage Analysis (NVA) to determine the voltage potential V_s across the current controlled current source.
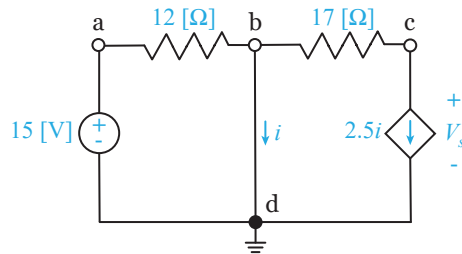

Figure 1: Schematic for Problem #1.

Problem #2

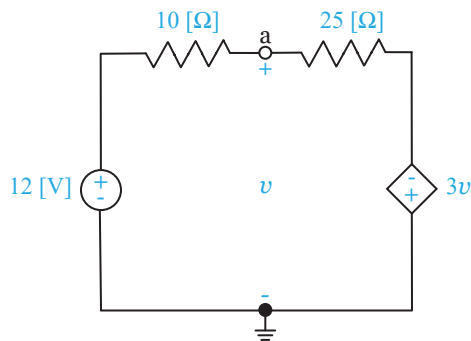Use Node Voltage Analysis (NVA) to determine the node voltage at a.

Figure 2: Schematic for Problem #2.

Problem #3

Determine currents i_1, i_2, and i_3 using Mesh Current Analysis (MCA).
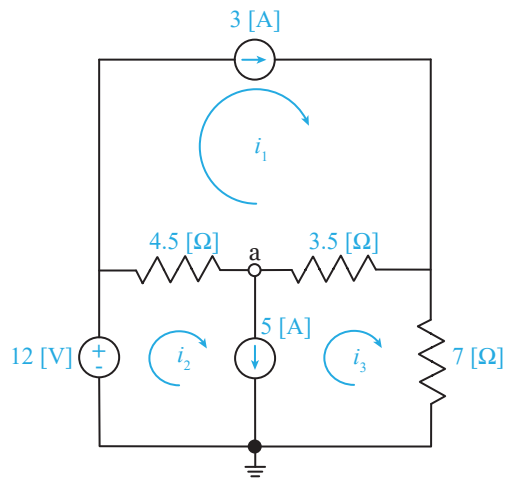

Figure 3: Schematic for Problem #3.

Problem #4

Use Mesh Current Analysis (MCA) to find the total power developed in the circuit in Fig. 4
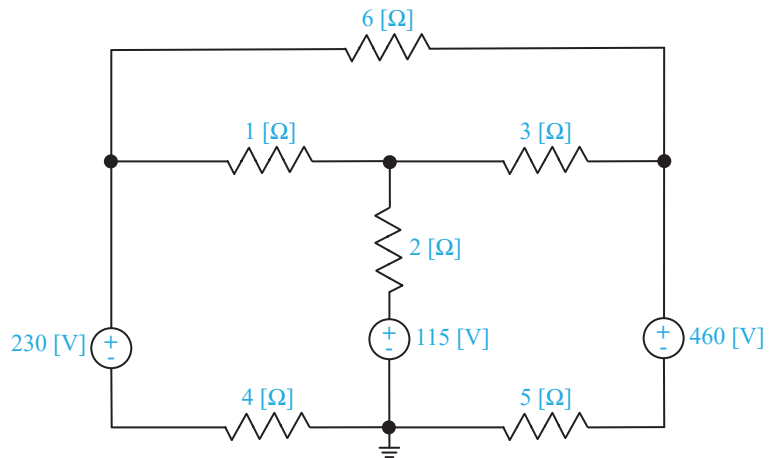

Figure 4: Schematic for Problem #4.

Problem #5

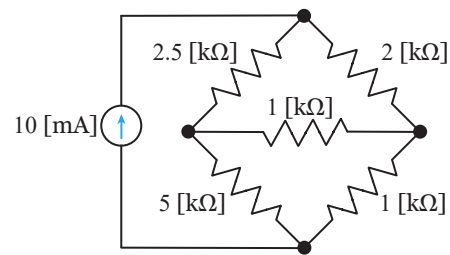Use Mesh Current Analysis (MCA) to find the power dissipated in the 1 [kΩ] resistor.

Figure 5: Schematic for Problem #5.