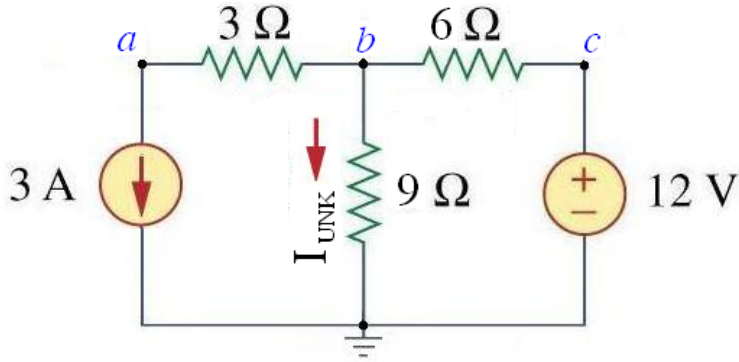


EE301 Nodal Analysis Part II Homework Assignment

1. Given the following circuit:



- a. Write the equations for the three branch currents at node b. DRAW the current arrows corresponding to these equations on the circuit above.

$$I_1 = \underline{\hspace{2cm}}$$

$$I_2 = \underline{\hspace{2cm}}$$

$$I_3 = \underline{\hspace{2cm}}$$

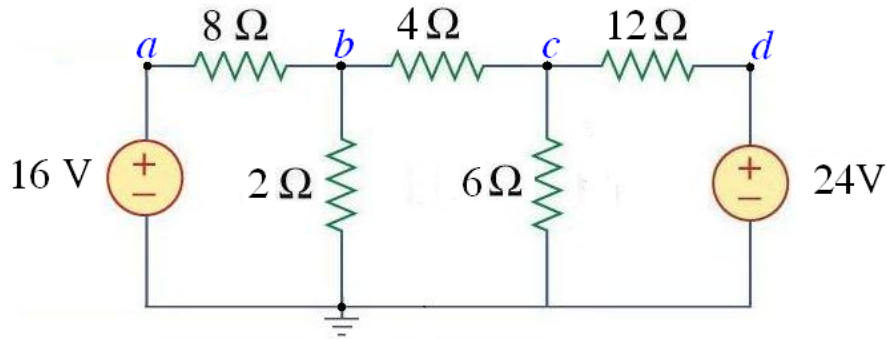
- b. Write the resulting Nodal Analysis equation for node b and solve for the unknown voltage V_b . Calculate I_{UNK} .

$$V_b = \underline{\hspace{2cm}}$$

$$I_{\text{UNK}} = \underline{\hspace{2cm}}$$

EE301 Nodal Analysis Part II Homework Assignment

2. Given the following circuit:



c. Identify the voltage at each of the four nodes (either as a value or as UNKNOWN if it must be calculated)

$$V_a = \underline{\hspace{2cm}}$$

$$V_b = \underline{\hspace{2cm}}$$

$$V_c = \underline{\hspace{2cm}}$$

$$V_d = \underline{\hspace{2cm}}$$

d. Write the nodal analysis equation for nodes b and c.

Node b: $\underline{\hspace{10cm}}$

Node c: $\underline{\hspace{10cm}}$

e. Solve for the unknown node voltages.

EE301 Nodal Analysis Part II Homework Assignment

3. Use Nodal Analysis to determine the currents I_X and I_Y in the circuit below.

