

## NODAL ANALYSIS-PART II

### Learning Objectives

- a. Apply Nodal Analysis to circuits with current sources.
- b. Solve for multiple unknown voltages in a complex DC circuit.

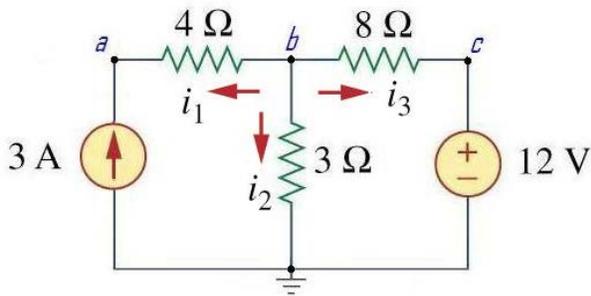
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Nodal Analysis with Current Sources. A current source makes the nodal analysis equations easier since we now know one of the branch currents. As always, pay attention to polarity.

No other new material today... just lots of example problems!

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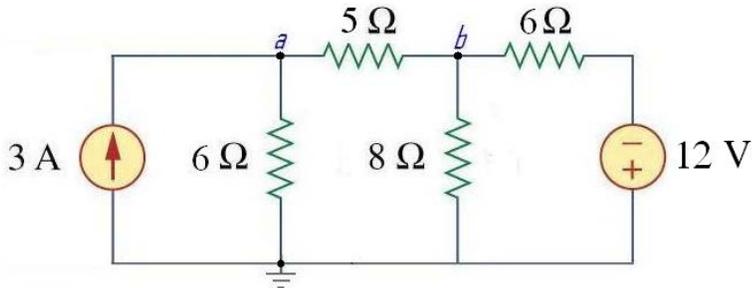
Example. Determine  $V_b$  in the circuit below using nodal analysis.



Solution:

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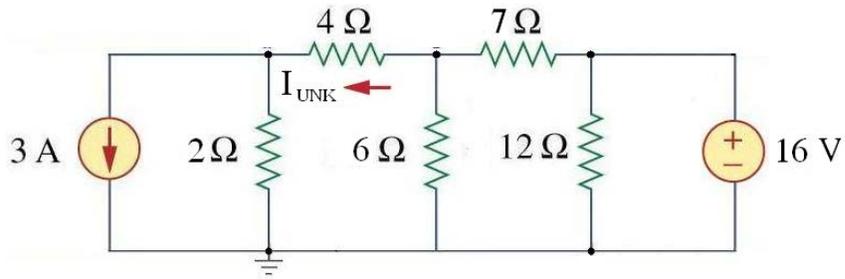
Example. Using nodal analysis, write the equations for the nodes  $a$  and  $b$ .



Solution:

**EE301 – Lesson 11**  
Reading: Sections 8.9

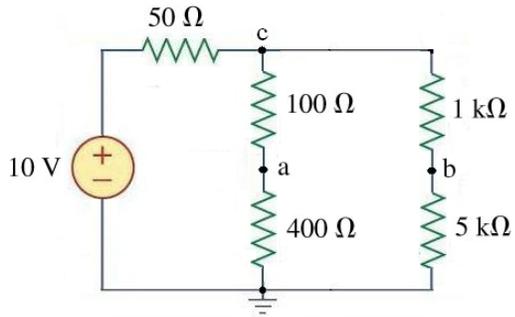
Example. Solve for  $I_{UNK}$ .



Solution:

**EE301 – Lesson 11**  
Reading: Sections 8.9

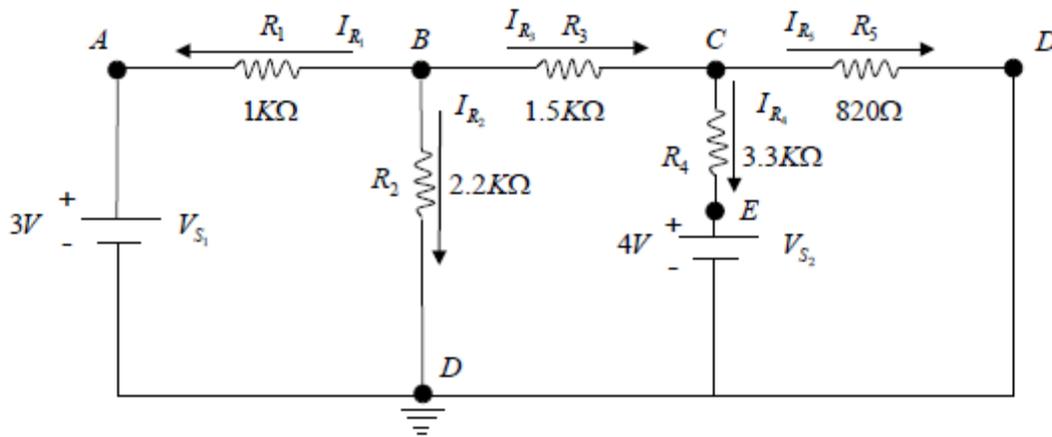
Example. Solve for  $V_{ab}$ .



Solution:

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Example. Determine  $V_B, V_C$  in the circuit below.



Solution: