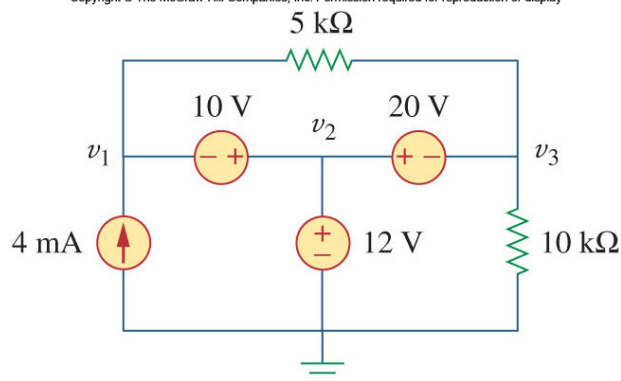


EE2301 Review Exercise 1

- 1) For the circuit below
 - a) Determine v_1 , v_2 , v_3 .
 - b) Find the current through the 5Ω resistor.
 - c) For each source, state if it is generating and consuming power.

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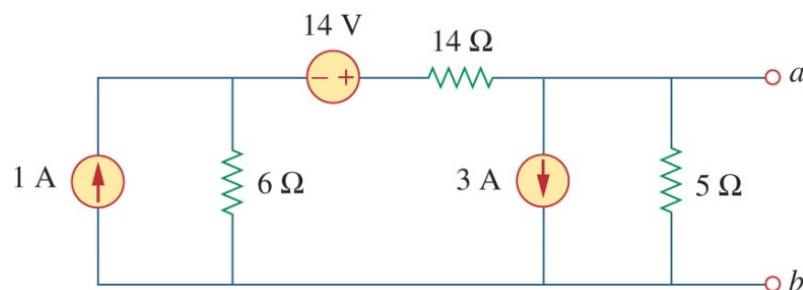
ANS: a) $v_1 = 2\text{V}$, $v_2 = 12\text{V}$, $v_3 = -8\text{V}$

b) $v_{13} = 10\text{V} \Rightarrow I = 10/5 = 2\text{mA}$

c) 4mA (2V): Generating, 10V (2mA): Generating, 20V (2.8mA): Generating, 12V (-4.8mA): Consuming

- 2) For the circuit shown below,
 - a) Find the Thevenin/Norton equivalent seen at terminals a-b.
 - b) Find V_{ab} when a 4Ω resistor is connected across terminals a-b.

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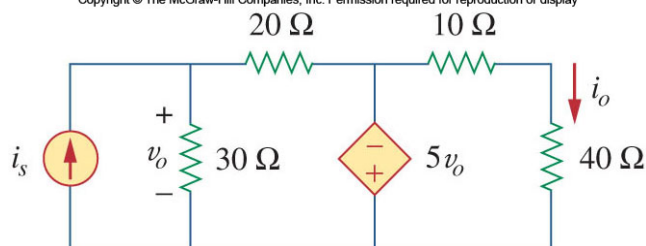


ANS: a) $V_{Th} = -8\text{V}$ OR $I_N = -2\text{A}$, $R_{Th} = 4\Omega$;

b) $V_{ab} = -4\text{V}$

- 3) Given $i_s = 1\text{A}$, find v_o for the circuit shown below:

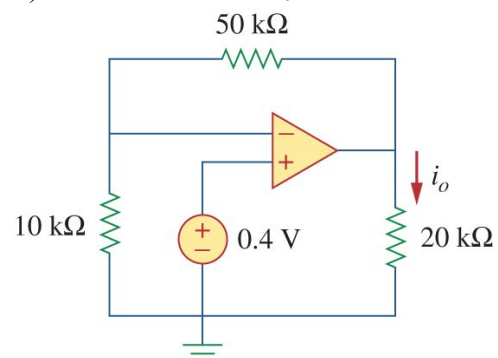
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ANS: $v_o = 3\text{V}$

EE2301 Review Exercise 1

- 4) For the circuit shown below,
- Determine the circuit input resistance.
 - Find the current i_o .



ANS: a) Infinite; b) $i_o = 0.12 \text{ mA}$