***CSE250: Circuits and Electronics***

***Spring 2023***

***Practice Problems Set 2***

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| 1. For the network shown below, determine,   **a.**  **b.**  **c.** | ***Answer:***   1. *, , ,* 2. *, ,* 3. *,* | | | | |
| 1. For the network shown below,   **a.** Count the number of nodes.  **b.** Determine the node voltages.  **c.** Determine the power supplied by the current source. | ***Answer:***   * 1. *Try yourself.* | | | | |
| 1. Use nodal analysis and determine the power of the source. | | | | ***Answer:*** | |
| 1. Use the node-voltage method to find the power associated with each source in the circuit shown. | | | | ***Answer:***  *;* | |
| 1. Use nodal analysis and find the current through the dependent voltage source. | | | | | ***Answer:*** |
| 1. Use the node-voltage method to find the branch currents and . | | | ***Answer:*** | | |
| 1. Using nodal analysis, determine in the circuit below. | | | ***Answer:*** | | |
| 1. Using nodal analysis, determine in the circuit below. | | | ***Answer:*** | | |
| 1. Using mesh analysis, find . | | | ***Answer:*** | | |
| 1. Use mesh analysis and determine | | | ***Answer:*** | | |
| 1. Use mesh analysis to determine the current supplied by the source. | | | ***Answer:*** *15 A* | | |
| 1. Use mesh analysis and determine . Find the power delivered by the dependent source. | | | ***Answer:*** | | |
| 1. Use the mesh-current method to find the power dissipated in the resistor in the circuit shown. | | | **Answer:** . | | |
| 1. Use mesh analysis and determine the power of the source. | | | **Answer:** | | |
| 1. Use mesh analysis and determine the power of the dependent source. | | | **Answer:** | | |
| 1. Use mesh analysis method and determine voltage across the current source. | | | **Answer:** | | |
| 1. Use superposition to solve for in the following circuit. | | | **Answer:** | | |
| 1. For the circuit shown below, use superposition to find . Calculate the power delivered to the 3-Ω resistor. | | | **Answer:** | | |
| 1. Use the superposition principle to find in the following circuit. | | **Answer:** | | | |
| 1. Determine using superposition principle. | | | **Answer:** | | |
| 1. Obtain in the following circuit using source transformation. | | | **Answer:** | | |
| 1. Use a series of source transformations to find . | | | **Answer:** | | |
| 1. Use source transformation to find . | | | **Answer:** | | |