Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (please print)

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ECE 2300 – Quiz #2

February 26, 2015

Keep this quiz closed and face up until you are told to begin.

1. This quiz is closed book, closed notes. You may use one 8.5” x 11” crib sheet, or its equivalent.

2. Show all work on these pages. Show all work necessary to complete the problem. A solution without the appropriate work shown will receive no credit. A solution which is not given in a reasonable order will lose credit.

3. It is assumed that your work will begin on the same page as the problem statement. If you choose to begin your work on another page, you must indicate this on the page with the problem statement, with a clear indication of where the work can be found. **If your work continues on to another page, indicate clearly where your work can be found. Failure to indicate this clearly will result in a loss of credit.**

4. Show all units in solutions, intermediate results, and figures. Units in the quiz will be included between square brackets.

5. Do not use red ink. Do not use red pencil.

6. You will have 30 minutes to work on this quiz.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/20

Room for extra work

A device can be modeled as a voltage source in series with a resistance. The device was connected to the circuit shown in Figure 1. Note the terminal labels a and b in this diagram. When the resistor value *RX* was equal to 5.6[k], then the voltage *vA* was -7.695[V], and the current *iA* was 7.624[mA]. Later, the resistor value *RX* was changed to 6.8[k], and then the voltage *vA* was -1.368[V], and the current *iA* changed to 5.348[mA]. Assume that now this same device is connected in the circuit in Figure 2, with the terminal labels shown. Find the power absorbed by the device in Figure 2.

 

Room for extra work

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Room for extra work

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Room for extra work

ECE 2300 -- Quiz #2 – February 26, 2015 – Solution – Version 1.

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