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

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

ECE 2201 – Quiz #3

October 18, 2023

Do not open this quiz 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. You may use a calculator. You should **not** use a cell phone, tablet computer, or laptop computer, as you work on this quiz.

2. Show all work on these pages, and you may use both sides of each page. 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. You may separate the pages as you work.

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

4. Do not use red ink. Do not use red pencil.

5. You will have 40 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 has the relationship between voltage and current given in Figure 1. The polarities for voltage *vA* and current *iA* are shown in Figure 2. Two identical versions of the device are connected in the circuit in Figure 3 with the polarities shown with terminal labels A and B.

1. Find the model for the device. Draw the model, labeling the terminals A and B. Label the components in the model with numerical values.
2. Find the power delivered by the current source in Figure 3.







