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

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

ECE 2202 – Quiz #1

June 21, 2022

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. 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 with a Thevenin equivalent. Three identical versions of this device are connected in the circuit shown. Each device has terminals named a and b. The polarity of each device is shown by terminal labels a and b.

When the voltage source *vS* equals 15[V], then *iX* = -19.13[mA].

When the voltage source *vS* equals 35[V], then *iX* = -16.72[mA].

Find a model for the device, and draw it, labeling terminals a and b.

Room for extra work





