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

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

ECE 3355 -- Quiz #2

February 26, 2019

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.

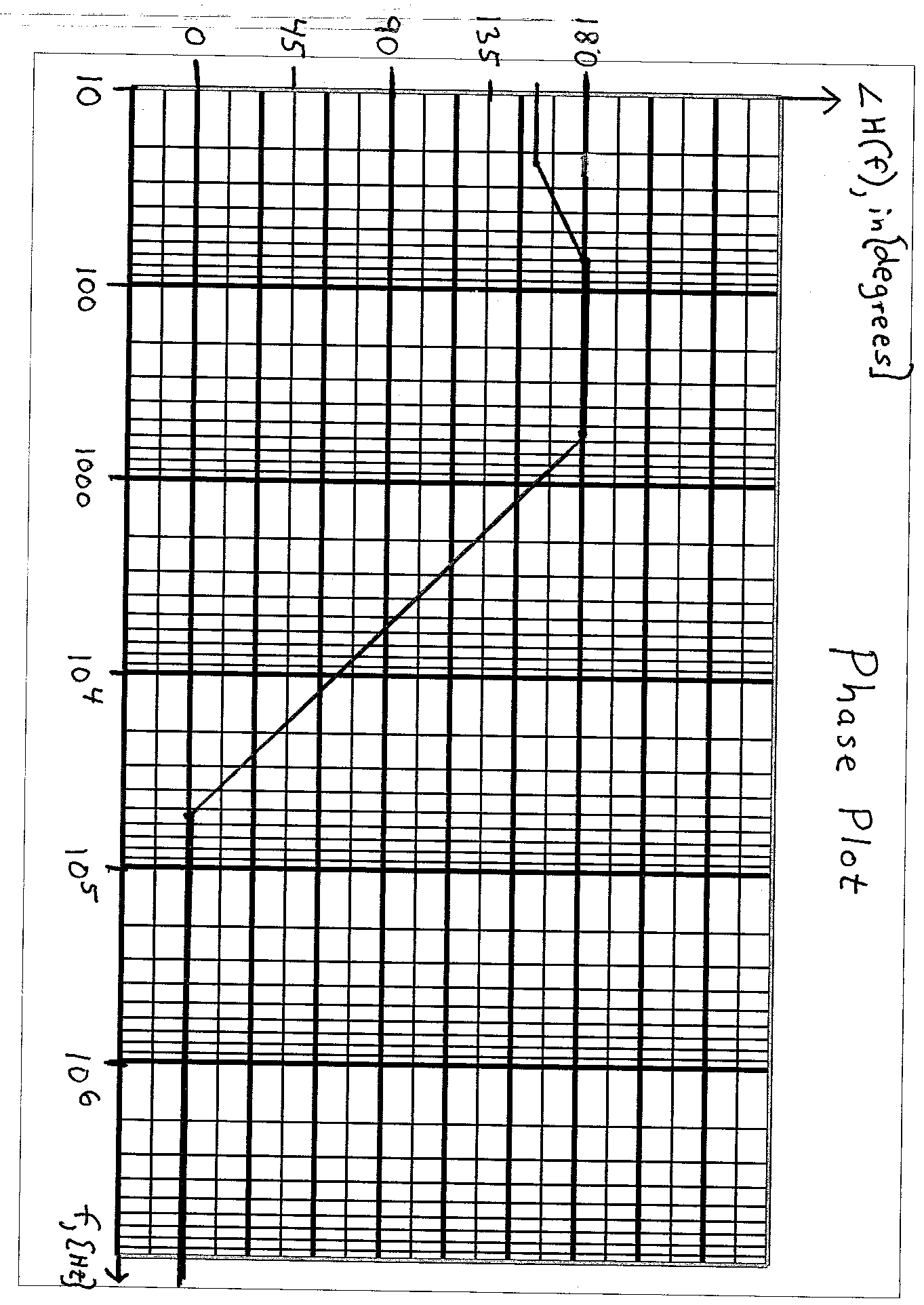
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/20

Room for extra work

A circuit is found to have the transfer function given below. This transfer function is given as a function of the angular frequency, **. The straight-line approximation to the phase Bode plot for this circuit is shown on the next page. Note that there may be poles or zeroes outside the range of the plot. Find reasonable values for *a*, *b*, *d*, and *e*. All four of these variables are real numbers. There can be more than one solution possible. The transfer function is



Room for extra work



ECE 3355 -- Quiz #2 – February 26, 2019 – Solution

A circuit is found to have the transfer function given below. This transfer function is given as a function of the angular frequency, **. The straight-line approximation to the phase Bode plot for this circuit is shown on the next page. Note that there may be poles or zeroes outside the range of the plot. Find reasonable values for *a*, *b*, *d*, and *e*. All four of these variables are real numbers. There can be more than one solution possible. The transfer function is



