

Name: _____ (please print)

Signature: _____

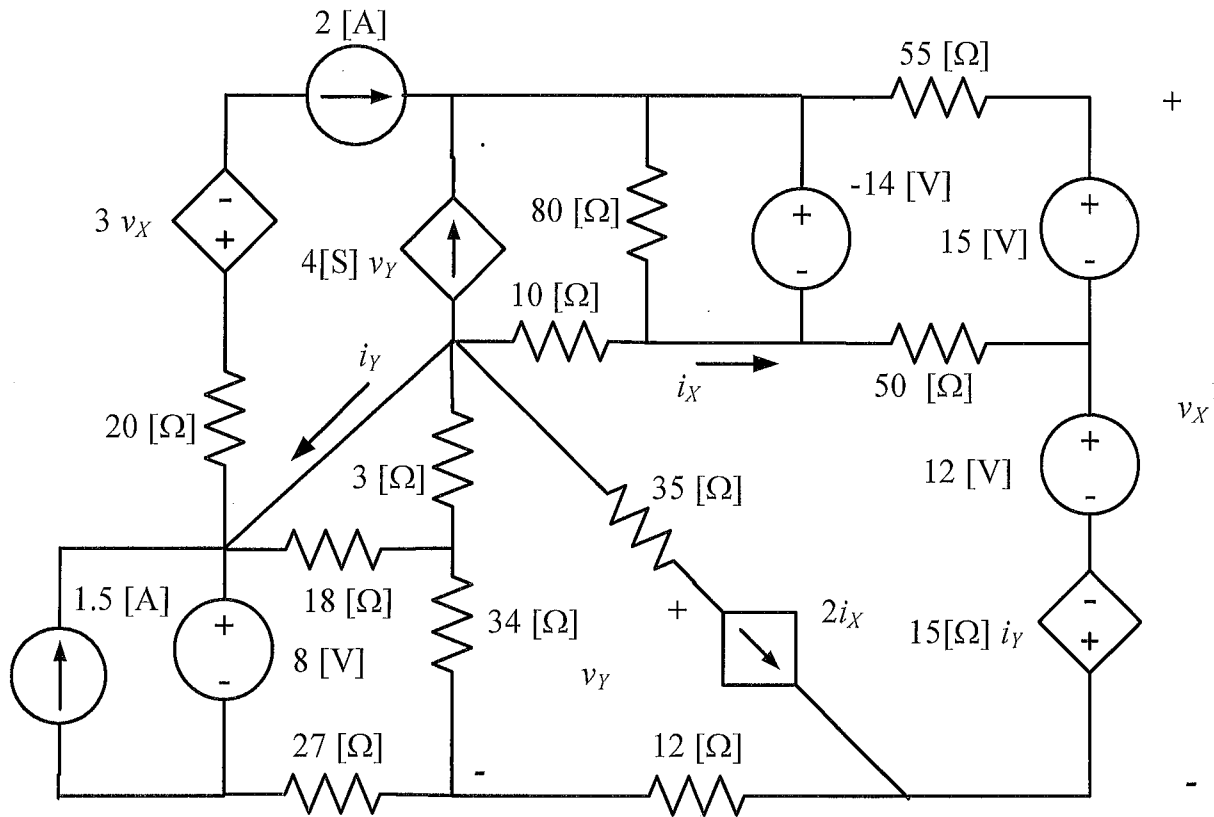
ECE 2201 – Quiz #4
March 30, 2023

- This quiz is closed book, closed notes.
- 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.
- Show all units in solutions, intermediate results, and figures. Units in the quiz will be included between square brackets.
- If the grader has difficulty following your work because it is messy or disorganized, you will lose credit.
- Do not use red ink. Do not use red pencil.
- You will have 40 minutes to work on this quiz.

_____ /20

Room for extra work

Use the node voltage method to write a set of equations that could be used to solve the circuit. Do not simplify the circuit, and do not solve the equations. Define all variables.



auxiliary

$$i_x: -\frac{V_A - V_B}{20} + \frac{V_B}{10} + i_x = 0$$

$$i_y: i_y + 4V_y - \frac{V_B}{10} + 2i_x - \frac{V_G}{3} = 0$$

$$V_y: V_y + V_E + 35 \cdot 2i_x = 0$$

$$V_x: V_x = 15 + 12 - 15i_y$$