

Name _____

EE/EET 2240

Exam #2

Thursday, October 25, 2018

LIBR B03 and TAB 115, 9:30AM – 10:45AM

[closed book – one one-sided 8½”×11” page of notes and calculator allowed, nothing else]

1. Determine the value of z in the system of equations shown below.

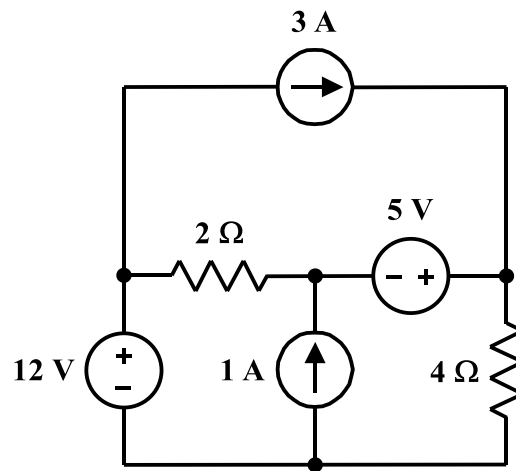
Please check your work; there will be no partial credit on this problem.

$$\begin{bmatrix} 2 & 5 & 1 \\ 3 & 1 & 7 \\ 0 & 2 & 5 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} -7 \\ 28 \\ 35 \end{bmatrix}$$

2. Use the *mesh analysis* method to formulate a system of simultaneous linear equations representing the circuit shown below. Express the equations in the matrix form discussed in class.

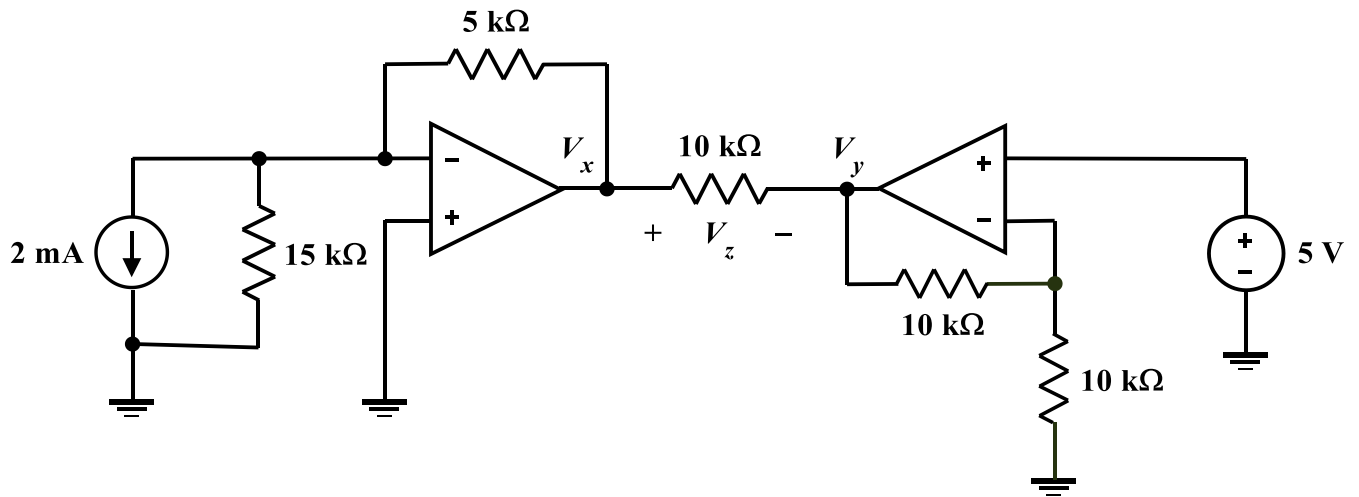
Show the details of your work in a neat and orderly fashion, including how you defined the mesh currents.

Do not make substitutions nor attempt to solve the equations.



3. Determine the numerical values of V_x , V_y and V_z .

Show the details of your work in a neat and orderly fashion, and define all symbols or variables you use in your solution.



4. Assume the superposition method is to be used to determine the voltage V_x . Determine the contribution from the 3 A independent current source.

Show the details of your work in a neat and orderly fashion.

