

Name \_\_\_\_\_

EE 2240

**Exam #1**

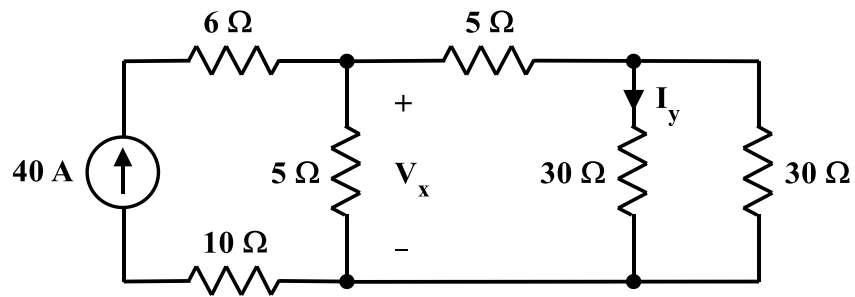
Friday, February 03, 2017

LIBR B07/B16 and TAB 115, 9:00AM – 9:50AM

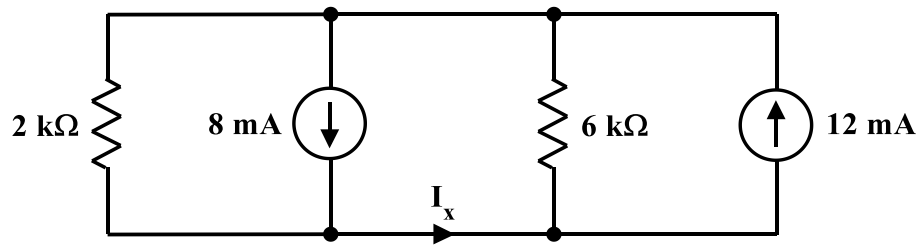
[closed book – one two-sided 8½”×11” page of notes and calculator allowed, nothing else]

Work must be shown in a neat and orderly fashion if you expect to receive partial credit.

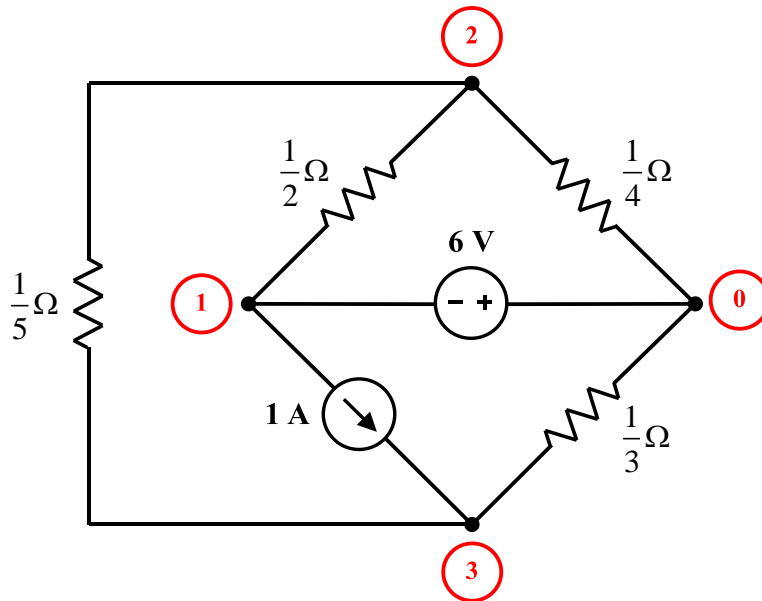
1. Determine the value of  $V_x$  and the value of  $I_y$ .



2. Determine the value of  $I_x$  and the amount of power absorbed by the  $2\text{ k}\Omega$  resistor.



3. Use the method discussed in class to determine a set of node equations describing the circuit shown, and express them in the standard matrix form. Use the node labels that are already assigned. *Do not attempt to solve the equations.*



4. Solve for the value of  $z$ . Check your work; there will be very little partial credit on this problem.

$$\begin{bmatrix} 1 & 0 & 0 \\ -2 & 11 & 5 \\ 0 & -5 & 8 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 1 \\ -2 \\ -113 \end{bmatrix}$$