

University of Portland
School of Engineering

EE 261-Electrical Circuits-3 cr. hrs.
Fall 2011

Midterm Exam # 1

(Friday, September 30, 2011)
(Closed Book Exam, One Formula Sheet Allowed)
(Total Time: 55 minutes)

Name: _____ 😊

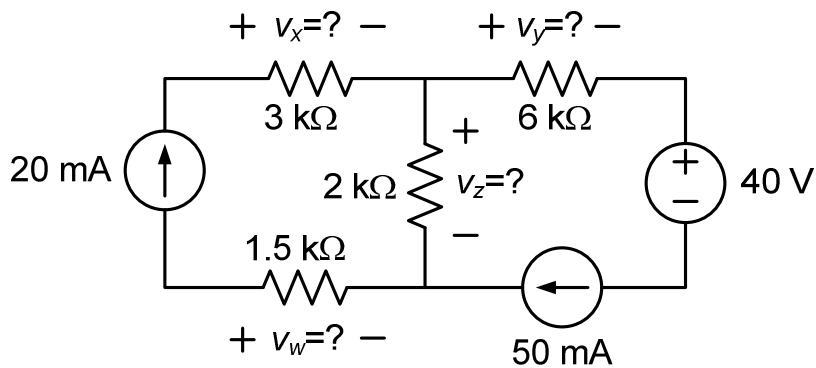
Signature: _____ 😊

“An honest mind possesses a kingdom.”
Lucius Annaeus Seneca (4B.C.–65A.D.)

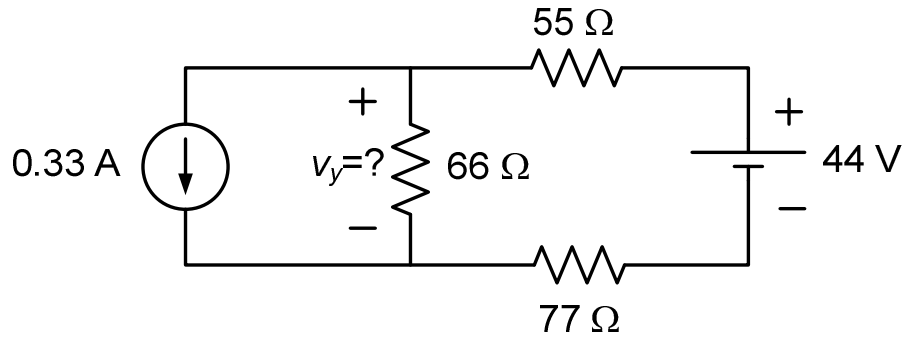
“Honest people are the true winners of the universe.”
Anonymous

NOTE: On all the problems, please show your work clearly, and provide the appropriate units for your answers. Also mark on the schematic to show any current or voltage that you define in your solution.

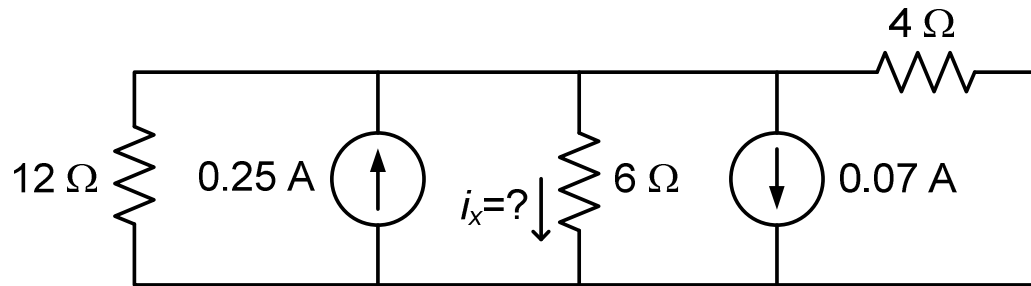
1. (20 points) In the electric circuit shown, find the values of the voltages of the four resistors as indicated. Please show your work clearly and provide brief justifications for the steps you take. Also, don't forget to provide the correct units for your answers! Box your answers!



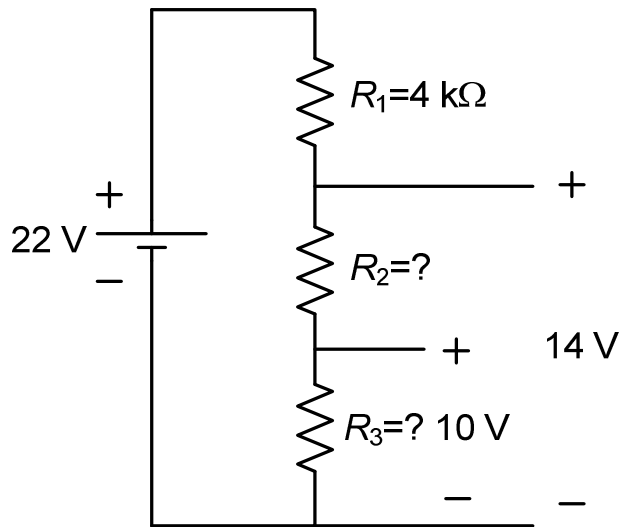
2. (20 Points) Consider the electric circuit shown. Find the value of the voltage v_y across the 66Ω resistor. Show your work step by step including justifications.



3. (20 Points) Consider the electric circuit shown. Determine the current i_x that flows through the $6\ \Omega$ resistor as shown. Please provide your work step by step with justifications.



4. (20 Points) For the electric circuit shown, find the values of resistors R_2 and R_3 . Show your work step by step and provide justifications.



5. (20 Points) In the electric circuit shown, apply node voltage method to solve for the voltage v_a . Show your work step by step.

