

University of Portland
School of Engineering

EE 261-Electrical Circuits-3 cr. hrs.
Spring 2007

Midterm Exam # 1

(Friday, February 16, 2007)
(Closed Book Exam, One Formula Sheet Allowed)
(Total Time: 55 minutes)

Name: _____ 😊

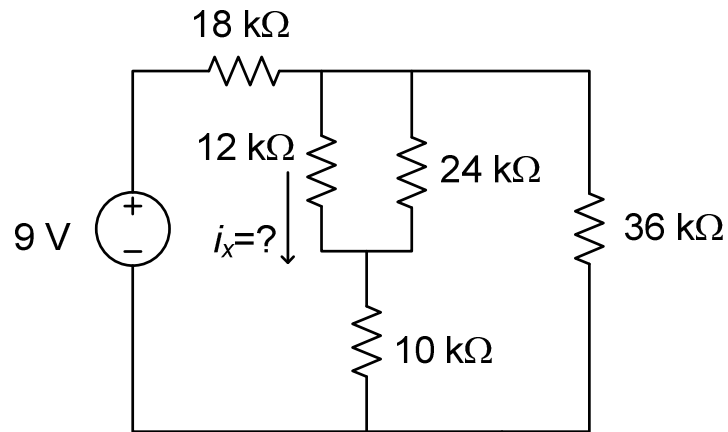
Signature: _____ 😊

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

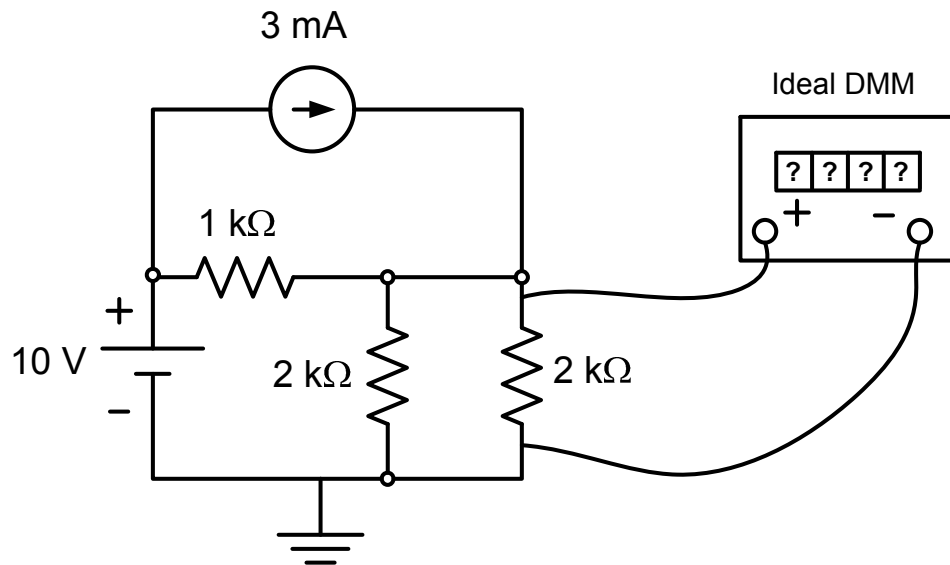
“Honest people are the true winners of the universe.”
Anonymous

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. (25 points) In the circuit shown, find the value of the current i_x through the $12\text{ k}\Omega$ resistor. (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.)

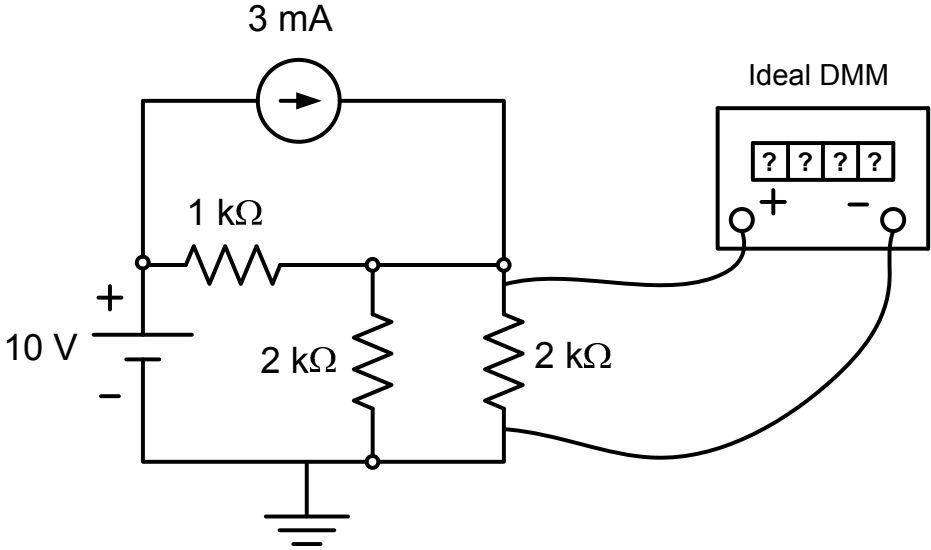


2. (Total: 25 Points) Consider the circuit with the ideal DMM connected as shown.

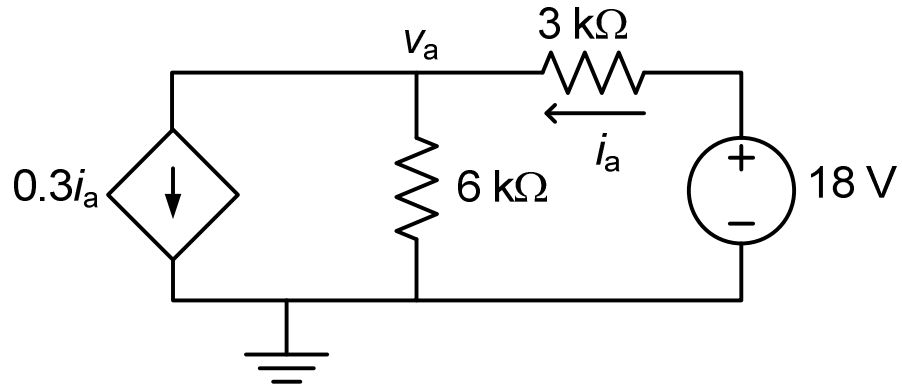


(a) (12.5 points) Find the DMM reading if it's set to measure voltage. Please indicate the appropriate units.

(b) (12.5 points) Find the DMM reading if it's set to measure current. Again, indicate your units.



3. (25 Points) Consider the circuit shown. Determine the node voltage v_a . Also, determine the power delivered by the voltage source. Please show your work step by step.



4. (25 Points) In the circuit shown, find the power of each voltage source. Indicate the type of each power (i.e., supplied or absorbed). Please show your work step by step.

