CASE WESTERN RESERVE UNIVERSITY
Case School of Engineering
Department of Electrical Engineering and Computer Science

ENGR 210. Introduction to Circuits and Instruments (4)

Quiz No. 2   Solutions   9/6/03

Name *(Section)*: _____

PUT ANSWERS IN THE SPACE PROVIDED AND SHOW YOUR WORK
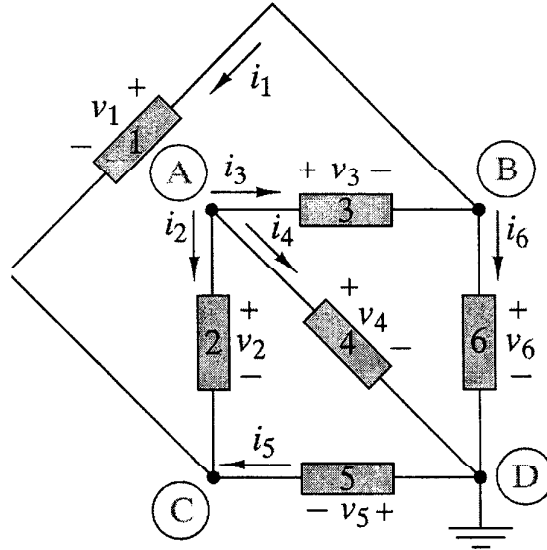
Problem 1 (10 points)
    Complete this table.

QUANTITY	SYMBOL	UNIT
Power	P	W (Watt)
Charge	Q	C (Coulomb)
Current	I	A (Amp)
Voltage	V	V (Volt)
Resistance	R	Ω (Ohm)

Note: lower case is preferred for variables (p, q, i, v), while upper case is used for constants (P, Q, I, V)

(over)

Problem 2 (10 points)
    Write the KCL equations for this circuit, then solve for the unknown currents. Complete the tables.

NODE	KCL EQUATION	
A	$i_2 + i_3 + i_4$	= 0
B	$i_1 + i_6 - i_3$	= 0
C	$i_1 + i_2 + i_5$	= 0

ELEMENT	CURRENT
1	$I_1 = 1\ A$
2	$I_2 = 2\ A$
3	$I_3 = 3\ A$
4	$I_4 = -5A$
5	$I_5 = -3A$
6	$I_6 = 2\ A$

(over)