

Name : _____ Section: _____ CWRU e-mail: _____

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. 1

1/23/04

PUT ANSWERS IN THE SPACE PROVIDED AND SHOW YOUR WORK IF APPROPRIATE

Problem 1 (10 points)

A particular circuit has three devices with electrical parameters as shown below. Complete this table and indicate whether each device is absorbing (**A**) or delivering (**D**) power. Current is defined to be positive when it flows into the positive terminal of the device.

Device	Voltage	Current	Power	A/D
1	+5 V		+1.250 W	
2		0.25 A	+ 0.625 W	
3	- 7.5 V			

Problem 2 (5 points)

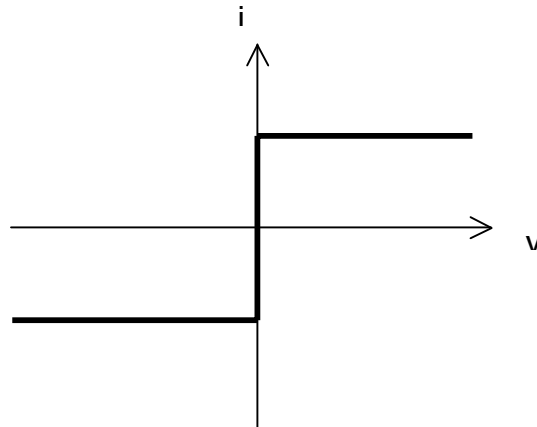
Complete the following table using the first row as your example.

Quantity	Numerical Value	Physical Unit
0.730 nJ	0.73×10^{-9}	Joule (energy)
	2.46×10^4	Volts (energy change/electron)
0.36 millimicro Ω		Ohms (resistance)
0.1 μ C	1×10^{-7}	
0.99 mA		

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Problem 3 (5 points)

You are on a CO-OP assignment and use a Keithley parameter analyzer to measure the I-v characteristics of an electronic device. It gives you the i-v curve shown below. Please check the appropriate box indicating whether the following statements are true or false.



TRUE	FALSE	Statement
<input type="checkbox"/>	<input type="checkbox"/>	The device is linear.
<input type="checkbox"/>	<input type="checkbox"/>	The device is passive.