

## PHY 124 EXPERIMENT 3 DC Circuits - Worksheet

Values of  $R_1$  and  $R_2$  measured with the multimeter by the TA:

$$R_1 = \text{_____} [ \quad ] \quad R_2 = \text{_____} [ \quad ]$$

### Part I: The Resistor $R_2$ :

The measured V-I pairs are:

Meas.	Voltage (V) [V]	Current (I) [A]
1		
2		
3		
4		
5		
6		

The value for the resistance  $R_2$  (with uncertainty) obtained from the slope of the graph is:

$$\text{_____} [ \quad ]$$

### **Part II – Resistors in Series**

Using equation 3.2, the value of the equivalent series resistance calculated from the values of  $R_1$  and  $R_2$  measured by the TA using the multimeter is (show the calculation):

\_\_\_\_\_

The measurements of  $V$  and  $I$  at  $\sim 10$  V are:

Voltage (V) [V]	Current (I) [A]

The measured equivalent series resistance and its uncertainty is: \_\_\_\_\_ +/- \_\_\_\_\_

### Part III- Resistors in Parallel

Using equation 3.3, the value of the equivalent parallel resistance calculated from the values of  $R_1$  and  $R_2$  measured by the TA using the multimeter is (show the calculation):

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The measurements of  $V$  and  $I$  at  $\sim 10$  V are:

Voltage (V) [V]	Current (I) [A]

The measured equivalent parallel resistance and its uncertainty is: \_\_\_\_\_ +/- \_\_\_\_\_

### Part IV: The Light Bulb

The measured  $V$ - $I$  pairs are: **(no uncertainties)**

Meas.	Voltage (V) [V]	Current (I) [A]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		