

Lab Homework

Name: _____

Part I

1. What does the slope of Constant Resistance graph represent in the data of Part I?

Slope =

2. How does the V and I relate to the constant R?

a. Inverse relationship because $R = V * I$

or

b. Direct relationship because $R = V / I$

Part II

3. How does the R and I relate to the constant V?

a. Inverse relationship because $V = R * I$

or

b. Direct relationship because $V = R / I$

Part III

The overall circuit resistance = $R_{\text{both}} = R_{\text{eq}} = R_1 + R_2 + R_3 + \dots$

4. Use your R1 & R2 data from Part III to calculate R_{eq} .

_____ + _____ = _____

Is this calculated R_{eq} close to the R_{eq} in Part III?

Part IV

The overall circuit resistance = $1/R_{\text{both}} = 1/R_{\text{eq}} = 1/R_1 + 1/R_2 + 1/R_3 + \dots$

5. Use your R1 & R2 data from Part IV to calculate R_{eq} .

_____ + _____ = _____

Is this calculated R_{eq} close to the R_{eq} in Part IV?

6. Compare the last two circuit graphs and *circle* which 3V circuit:

- had the same current for the circuit as the components? Series or Parallel
- had the same voltage for the circuit as the components? Series or Parallel
- dropped its voltage to components? Series or Parallel
- dropped its current to components? Series or Parallel
- had the most current running through its components? Series or Parallel
 - Note: It is twice as high as the other circuit!!

7. Which 3V circuit delivers a 3V to each resistor?

Series or Parallel