



OHM'S LAW

Guide Questions

40% of the Written Report (Group Report) grade

1. What is the shape of the V vs. I graph for a fixed resistance? What is the relationship between the voltage and the current? If the graph is not linear, how do you linearize it? What is the significance of the slope of the graph and what physical quantity does it represent?
2. If V was plotted against R for constant current, what is the shape of the plot? What relationship between V and R can be observed? What does the slope of the graph signify and what physical quantity does it represent?
3. What is the shape of the graph when I is plotted vs. R for constant V ? If it is not linear, how do you linearize it? What is the significance of the slope of this linearized plot and what physical quantity does it represent?
4. From the plot of R_{measured} vs. L , what is the relationship between the length of the wire and its resistance? How do you compute the resistivity of the wire from the slope of this plot?
5. Compute for the percentage error of the resistivity ρ_{expt} obtained from the slope of R_{measured} vs. L with that of the standard value. Cite two possible sources of error.