Voltage Divider Quick Sheet

Print Last Name _____ Print First Name _____

Section____ Date_____ TA_____

Lab Partner_____

Measured Voltages for **Part 1**.

V_{in} = _____

Slope from Excel graph and calculated value of pencil resistance

Slope = _____ $R_2 \pm S_{R2}$ = _____ % error =_____

Measured Voltages for **Part 2**.

Voltage drop across R_2 and wire. V_{in} = _____

Voltage drop across wire. V_{wire} = _____

Calculated V_2 = _____ **$V_2 = V_{in} - V_{wire}$**

Calculate Current I in the circuit using V_2 and R_2. Use R_2 measured from part (1) above.

I = _____

Diameter D and Cross-sectional area A of the wire.

D = 0.63 mm A = _____

Slope from Excel graph and calculated resistivity of the wire

Slope = _____ $\rho \pm S_\rho$ = _____ (This should be a positive number.)

Percent error to the accepted value of $\rho = 1.08\ \mu\Omega m$.

% error = _____

Resistance of wire using Ohm's Law ($R_{3,\ wire,\ Ohm} = V_{wire}/I$).

$R_{3,\ wire,\ Ohm}$ = _____

Calculated value of resistance of the wire, $R_{3,wire}$, using length L = 1.00 meter, and the above values of A and ρ (parts 6 and 7). Calculate the percent error using the above measured value of $R_{3,\ wire,\ Ohm}$ as the accepted value.

Calculated $R_{3,wire,\ \rho}$ = _____ % error = _____