Ohm's Law
Pre-lab Test 5 (10 Points)

Print Name _____

Lab Section _____***Date***_____

Staple your work sheet to this pre-lab test. You are required to show your calculations! Points will be taken off if your work is not neat and well organized. Be sure to print your name on both sheets.

1) A current of 3.80 mA passes through a resistor which is at a temperature 22.3 °C. As a result a voltage of 4.00 volts is generated across the resistor. Increasing the current to 5.50 mA produces a voltage of 7.00 Volts. Calculate the resistance of the resistor.

$R_{\text{room temperature}}$ = _____

2) When we supply a current of 3.10 mA to the same resistor, but at a temperature of -195.8° C (Immersed in Liquid Nitrogen), the resulting voltage is 7.00 Volts. Calculate the resistance of the resistor at the new temperature.

$R_{\text{LN2 temperature}}$ = _____

3) When a voltage of 4.50 Volts is applied across a lightbulb a current of 120.00 mA passes through its filament. Calculate the resistance of the bulb and the power being dissipated in it.

R = _____

P = _____

4) A 3.3 kOhm resistor has a current of -1.21 mA passing through it. What is the voltage being applied to the resistor?

V = _____