

Name: _____

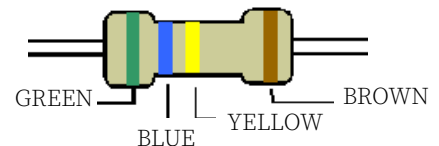
Lab Quiz 09: Ohm's Law

Answer each of the following questions using the information you collected during the lab. Please submit your completed quiz before you leave the lab. No papers will be accepted after the end of the lab period.

- (1 point) **True or false:** If you exceed the limit of the current probe, there is a reset button on the probe which fixes it. No problem!
- (1 point) **True or false:** If the power supply remains in the HI setting, the maximum current produced is not sufficient to permanently damage the current probe.
- (12 points) Complete the table with the measurements you have made for two different resistors:

	RESISTOR A	RESISTOR B
RESISTANCE (Ω)		
GRAPHICAL SLOPE (Ω)		
TOLERANCE ($\pm\%$)		

- (3 points) Calculate the **percent error** for **Resistor A**. Show your work.
- (3 points) Calculate the **percent error** for **Resistor B**. Show your work.
- (2 points) Were your resistors within tolerance? How do you know? Explain very briefly.
- (2 points) Read the color bands and compare to the chart to determine the resistance of the example shown on the right.
A) $R = 56 \Omega$ D) $R = 56 \text{ k}\Omega$
B) $R = 560 \Omega$ E) $R = 560 \text{ k}\Omega$
C) $R = 5600 \Omega$ F) $R = 5600 \text{ k}\Omega$
- (2 points) What is the tolerance of this example resistor?
A) $\pm 0\%$ B) $\pm 0.1\%$ C) $\pm 0.5\%$ D) $\pm 1\%$ E) $\pm 2\%$ F) $\pm 5\%$
- (2 points) **True or false:** This example resistor has a smaller tolerance than the resistors we used on the circuit board.



Continue on the back of this page!

10. (2 points) The lightbulb is
A) non-ohmic (non-linear). B) ohmic (linear).
11. (5 points) Use the grid below to sketch the shape of the **voltage vs current** graph for the **light bulb**. Do not try to scale the graph point-by-point; just capture the overall shape accurately!

