- Q1: Build the circuit and take a picture.

Complete

- Q2: What is the procedure to measure voltage, current, and resistance? Take a picture of your lab task and explain.

Voltage: The procedure needed to measure voltage is you measure each side of the resistor (that is connected to the entire circuit) connecting the voltmeter to its respective sides of the resistor.

Current: To measure the current you break the circuit and connect the ammeter to its respective positive and negative sides.

Resistance: To measure the resistance, you will need to take a resistor that is not connected to the source and connect the ohm meter to either side of the resistor.

- Q3. How much is the voltage drop for your temperature?

3.3volts - 1.43 volts = 1.87volts

- Q4: Measure the current and what the value is?

1.35 amps

- Q5: Calculate the resistance value. What is the value?

1.65 ohms

- Q6: What is the measured temperature for **internal** and external temperature sensors?

External: 39 degrees celsius

Internal: 29 degrees celsius

- Q7: What is the calibration formula?

Y = 1/x and the function between temperature and resistance is exponentially decreasing. As temperature increases, resistance decreases nearly according to this function.

- Q8: What are safety rules for the Lab?

Do not do unsafe things

1. No unsafe acts
    a. Don't stand on stools
    b. Don't point dangerous objects at people
    c. Don't drop metal objects on circuitry.
    d. Etc.
2. When testing the race car, make sure the car sits on a solid stand and won't fall off when the wheels are turning;
3. Use safety glasses and gloves when working with power-line voltage projects.
4. Do not let power lines or ethernet cables run across the floor or any space without protection.

5. Turn off switches when you need to disconnect any components from the car.
6. All power sources including batteries are polarized. Red indicates positive voltage and black indicates GND or negative voltage. Make sure the wire colors match before connecting power sources.