

**WORKSHEET
Parallel P1**

Student Name _____ date _____ MB# _____

Students should be able to Calculate, Measure and Compare fundamental characteristics of a parallel circuit.

- **Measure (A):** The student will use a Digital Multimeter (DMM), to measure the current (I), voltage (E), and resistance (R) for the Circuit on the P1 circuit on the Miniboard Parallel Trainer (simulator).
- **Calculate(B):** The student will use the principles of ohms law to calculate, current (I), voltage (E), and resistance (R) for the P1 Circuit using the measurements taken with the DMM on the Miniboard Parallel Trainer (simulator) Part A.
- **Compare (C):** The student will then compare the results of the measurements taken and those calculated using the DMM measurements to compare.

Part A Measure

Measuring Voltages:

Measure and record Battery Voltage a _____

Measure and record Total Voltage Drop for circuit P1 b _____

Measuring Resistance:

Measure and Record total resistance (Rt) for circuit P1 c _____

Measuring Amperage:

Measure and Record the Total Amperage for circuit P1 d _____

Part B Calculate

Calculate Resistance Total for circuit P1 $(E / I)=R$

Using the value of the resistors according to color code bands or instructor might supply resistance values to the student. (measuring individual resistance values with a DMM are not possible in a Parallel circuit for this reason another method must be used to find individual resistance values) Using the formulas of ohms law to calculate total resistance in a parallel circuit. Calculate the total Resistance for circuit P1.

Calculate resistance total for Circuit P1 by using resistor values for all resistors.

R1 resistance (circle one- color bands or provided) e _____

R2 resistance (circle one- color bands or provided) f _____

Calculate Resistance Total (Rt) using resistor values g _____

