

$$I = \frac{E}{R}$$

Ohm's Law

$$E = IR$$

$$R = E / I$$

Ohm's Law Variations

V and **E** = Voltage in VOLTS
I and **A** = Current in AMPS

DC = Direct Current
 (power supplies, cells & batteries)

R = DC Resistance in OHMS

AC = Alternating Current
 (power distribution and audio)

Z = AC Impedance in OHMS

Impedance is:

Resistance with Resonance

NOTES:

- The **V**oltmeter is in parallel with the lamps
- The **A**mmeter is in series with the entire circuit branch
- The switch **S-1** is single-pole double-throw (SPDT)

1.) Measure the Current in each branch of the circuit.

I_{LEFT}

I_{RIGHT}

2.) Measure the **COLD** resistance of each lamp

L-1= _____ L-2= _____ L-3= _____

3.) Measure the voltage across each lamp

V-1= _____ V-2= _____ V-3= _____

4.) Calculate the **HOT** resistance of each lamp

HOT: L-1 = $\frac{E-1}{I_{\text{LEFT}}} = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

L-2 = $\frac{E-2}{I_{\text{AVG}}} = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

L-3 = $\frac{E-3}{I_{\text{RIGHT}}} = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

NAME: _____ DATE: _____

AE-252 LAB-1 Week-1 Day (1 or 2) _____