Chapter IX Review Sheet **RS IX**

Definitions

across (80)

Active Component (83R, 87)

Ammeter (81)

Ampere (81, 82)

Battery (78)

Bozo (81)

calorie (88)

Circuit (78, 79, 81)

Charge (82)

Coulomb (82, 87)

Current (79, 81)

Diode (80)

Efficiency (89)

Electric Charge (82)

Heat (88)

Kilowatt-hour (RS V)

Parallel (79,81)

Passive Device (83R)

Potential Difference (83,87)

Power (RS VI, 88)

Resistance (78R, 84, 85)

Series (79,81)

Temperature (88)

Voltage (83,87)

Volt (87)

Voltmeter (83)

Watt (RS VI)

Discoveries

1. What two properties must an ammeter have? _____ _____ and _____ ____ _____ (84, 98)
2. What two properties must a voltmeter have? _____ _____ and ___ _____ (83R, 84, 98)
3. Charge Conservation law: How must the amount of charge entering a device compare with the amount of charge which leaves it? _____ -For any device or branch point how is input current related to output current? (82, 82R, 83R, 85)
4. How are voltages related in a parallel circuit? (84) _____
5. How are voltages related in a series circuit? (85, 83R, 86) _____
6. Connection rules: (81, 83, 85, 86)
   a. To measure the current _____ a device, you connect an _____meter in _____ with it.
   b. To measure the potential difference ("_____age") between the terminals of a device, you connect...
7. Sign rules:
   a. A battery pushes electrons out of its _____tive end and pulls them into its _____ end.
   b. Electrical meters and other passive devices with signed terminals must be connected so that electrons enter through the _____tive terminal and exit through the _____tive terminal. (81,85)
8. How can we calculate the amount of charge delivered to a device in a given period of time? (82)
9. Charge of an electron = _____ ____ (sign and magnitude) -first measured by _____(82)
   Charge of an alpha particle = _____ ____ (82)
10. Potential difference between the terminals of a passive component may cause electrons to flow through the device from the terminal with _____ electron pressure to the one with _____ pressure. (86)
11. Electron pressure is greatest at the ____tive terminal of a battery. (78)
12. A device is said to have *great* resistance if a _____ voltage across it causes a _____ current through it. (83R, 84) Great *sensitivity* means a _____ stimulus produces a _____ response. (85)
13. If a charged particle is moved from point A to point B and you divide the *work* done on the particle by the *charge* of that particle, the quotient is called the _____ _____ between A and B. (87)
14. How do we calculate the energy delivered to a device during a given period of time? (88, 89)
    a. Using the average voltage, average current, and time interval, Energy = _____.
    b. Using the average voltage and the amount of charge delivered, Energy = _____.
15. Electric power formula: (88, 89) P = ____ Water heating formula: (88) H = _____
16. Energy conversion: One calorie = _____ J. One joule = _____ calorie. (88, 89)