Pre-Lab: Basic Circuits

Choose the best answer. (10 pts total)

In the Basic Circuits lab, we will get experience hooking up various circuits and making measurements of current and voltage. By drawing pictures of both real circuits and schematic diagrams, we will learn how to interpret diagrams of circuits to hook up the circuits shown.

1. If there is only one path for the flow of charge or current, then it is a ______ circuit.
   a. parallel   b. series   c. There is no way to tell without seeing the circuit.

2. If there is more than one path for the flow of charge or current, then it is a ______ circuit.
   a. parallel   b. series   c. There is no way to tell without seeing the circuit.

3. An ammeter is used to measure ______.
   a. current   b. electrical potential difference   c. voltage   d. Answers b & c

4. A voltmeter is used to measure ______.
   a. current   b. electrical potential difference   c. voltage   d. Answers b & c

5. To measure current, connect your _______ with the circuit component you are measuring.
   a. ammeter in series   b. ammeter in parallel   c. voltmeter in series   d. voltmeter in parallel

6. To measure voltage, connect your _______ with the circuit component you are measuring.
   a. ammeter in series   b. ammeter in parallel   c. voltmeter in series   d. voltmeter in parallel

7. In this experiment, what terminals on the power supply should you connect your leads to?
   a. DC terminals   b. AC terminals

To use a multimeter as a voltmeter or an ammeter, the multimeter must be connected to the circuit using two wire leads and the dial set to measure the appropriate measurement. [Note the straight line above a symbol means DC (Å), but the curvy line above a symbol means AC (Ă)] The negative side of the circuit is always connected into COM.

8. When using the multimeter as an ammeter, connect the positive side of the circuit into ______, and turn the dial to ______.
   a. VΩ … V   b. COM … Å   c. 10A … Å   d. 10 A … Ω

9. A student measured a DC voltage using a Fluke 75 meter. What does Appendix B show for the meter uncertainty?
   a. 0.1% + 1 digit   b. 0.5% + 1 digit   c. 0.5% + 2 digits   d. 2.0% + 2 digits

10. If the voltage measured in question 9 was 2.563 volts, what is the uncertainty in volts?
    a. .004   b. .014   c. .015   d. .05