## 1.2.1: Power Supplies, Voltmeters, Ammeters (25 points total)

1. Sketch the circuit below, indicate the voltages vac, vbc and the current i on your sketch. Indicate on your sketch how the current and voltage measurements are being made. (2 pts)
2. What are the voltage and current measurements vbc and i with no power applied to the circuit? (3 pts)
3. What are the measured voltages vac and vbc and the measured current i with 5V applied to the circuit? (3 pts)
4. Comment on the following relative to your results.
5. What is the percent difference between the applied voltage vab indicated by the voltage source and the measured voltage vab? (2 pts)
6. What is the voltage difference across the ammeter (e.g the difference between vac and the voltage vbc)? Is the ammeter behaving like an open circuit or a short circuit? (2 pts)
7. What is the power generated by the source? (4 pts)
8. What are the measured voltages vac and vbc and the measured current i with the voltmeter leads reversed? Comment on your results vs. expectations, especially relative to the signs of the voltages and current. (5 pts)
9. **DEMO**: Have a teaching assistant initial this sheet, indicating that they have observed your circuits’ operation. (4 pts)

**TA Initials: \_\_\_\_\_\_\_**