Experiment 1
Mapping E-Fields

Questions

1. If both the positive and the negative probes of the voltmeter were placed on the 20 volt line, what would the meter read? (2 points)

2. Calculate the work done in moving a proton from the 40 V line to the 10 V line. How much force is required to do this? (3 points)

3. Why does the LED only light up when it is pointed in the direction of the field? (Hint: The LED requires a certain amount of current, the flow of charge, to light up. Charges only move when there is a force acting on them.) (3 points)

4. In a severe thunderstorm sitting in your car is safer than being out in the open. Why is this? (Hint: Look up ‘Faraday cage’.) (2 points)

Staple your completed maps to the answers to the questions.