Lab Preparation - The Universe, circa 1900

Before the first lab session:

Read entirely the lab manual <u>The Universe, circa 1900</u>.

Answer the following questions to check your understanding of several basic ideas.

1) Suppose the Sun were located at the center of a spherical Universe of stars. How would you expect the numbers of stars in the sky to depend on the direction which you look? Sketches may be valuable for Questions 1, 2 and 3.

2) Suppose the Sun were located at the center of a Universe of stars that was shaped like a deep-dish pizza. How would you expect the numbers of stars in the sky to depend on the direction which you look?

3) Suppose the Sun were located near the edge of the Universe of problem 2. How would you expect the numbers of stars in the sky to depend on the direction which you look?

4) A phone poll is conducted to determine whether UW students prefer Coke or Pepsi. Out of 200 students, 120 prefer Coke. Can you then securely conclude that UW students in general prefer Coke? Explain your answer. (Don't worry about selection biases, etc. etc. Just think about random fluctuations.)