

Name: \_\_\_\_\_  
Date: \_\_\_\_\_

## Unit 1 Quiz

1. **Identify** and **Explain** why each of the following scenarios is either an Observational study or an Experimental study.

a) A climate researcher is studying the effects of climate change and if record high temperatures have been increasing in certain regions of Africa. He has been monitoring the daily high temperatures (in Celsius) over the course of the past 5 years.

b) The Statistics Department at a local university wants to determine if flipped classrooms actually improve the learning of students. For the upcoming semester, they are going to have 3 courses taught traditionally (i.e. lecture in class and homework outside of the classroom) and 3 courses taught as flipped (i.e. students watch lecture videos at home and work on examples during class time). At the end of the semester, they will compare grades on the Final Exam.

2. You work for the University Recreation center and are asked to survey customers about the quality of the facilities (weight room, basketball court, yoga studio, etc.).

**Describe in detail** how you could obtain a sample to collect information about the quality of the Rec center facilities following each of the types of sampling methods listed below.

a) Cluster Sample:

b) Stratified Random Sample:

3. a) Is shoe size a qualitative or quantitative variable? **Explain.**

b) If quantitative, is it discrete or continuous? If qualitative, is it nominal or ordinal? **Explain.**

4. Give one example of a categorical random variable that is ordinal. **Explain** why it is ordinal.