

Stat 171 - Worksheet for Section 1.2

Name: _____

1. The population of several U.S. cities are shown in the table. Which data are qualitative and which are quantitative?
 - (a) Identify two data sets.
 - (b) Decide whether each data set consists of numerical or nonnumerical entries.
 - (c) Specify the qualitative data and the quantitative data.

City	Population
Baltimore, MD	619,493
Chicago, IL	2,707,120
Glendale, AZ	230,482
Miami, FL	408,750
Portland, OR	593,820
San Francisco, CA	812,826

2. Determine whether the data are at the nominal level or at the ordinal level. Justify your answers.
 - (a) The final standing for the pacific Division of the National Basketball Association.

 - (b) A collection of phone numbers.

3. Determine whether the data are at the interval level or at the ratio level. Justify your answers.
 - (a) The body temperatures (in degrees Fahrenheit) of an athlete during an exercise session.

 - (b) The heart rates (in beats per minute) of an athlete during an exercise session.

Stat 171 - Worksheet for Section 1.3

Name: _____

1. The Pennsylvania Game Commission conducted a study to count the number of elk in Pennsylvania. The commission captured and released 636 elk, which included 350 adult cows, 125 calves, 110 branched bulls, and 51 spikes. Is this study an observational study or an experiment?
 - (a) Determine whether the study applied a treatment to the subject.
 - (b) Choose an appropriate type of study.

2. A company wants to test the effectiveness of a new gum developed to help people quit smoking. They identified 240 adults who are heavy smokers. The subjects are randomly assigned to be in a treatment group or in a control group. Each subject is also given a DVD featuring the dangers of smoking. After four months, most of the subjects in the treatment group have quit smoking.
 - (a) Identify a potential problem with the experimental design.
 - (b) How could the design be improved?

3. A Company employs 79 people. Choose a simple random sample of five to survey.

4. You want to determine the opinions of students regarding stem cell research. Identify the sampling technique you are using when you select the samples listed. Discuss potential sources of bias (if any).
 - (a) You select a class at random and question each student in the class.

 - (b) You assign each student a number and, after choosing a starting number, question every 25th student.