Algebra 1B Date:

7.1 Types of Data

Qualitative (Quality) Description - can be observed but not measured	**Quantitative** (Quantity) Numbers – amounts can be measured

1. Which data would be considered quantitative?

   (1) The number of students in the 9th grade.
   (2) Opinions of students on Guitar Hero.
   (3) How students feel about math.
   (4) Asking a student whether he buys or brings lunch.

2. Which data would be considered qualitative?

   (1) The heights of the tallest buildings in NYC.
   (2) The number of teachers at Ames.
   (3) The opinions of students about the learning center.
   (4) The number of students in 1st period math.

Biased (Unfair)	**Unbiased** (Fair)
• Conflict of interest • Too few participants	• Random selection • Large sample that represents entire population.

3. A school wants to add a coed soccer program. To determine student interest in the program, a survey will be taken. In order to get an unbiased sample, which group should the school survey?

(1) Every member of Mr. Jacoby's classes. biased, too small of a sampling

(2) Every member of the football team. biased, probably be only boys and these are students who definitely like sports!

(3) Every 5th student entering the building. random sampling and a large sample size

(4) Every student whose last name starts with the letter "C". biased, too small of a sampling

4. A survey is being conducted to determine which school board candidate would best serve the Yonkers community. Which group, when randomly surveyed, would likely produce the most bias?

(1) 15 employees of the Yonkers school district too small of a sampling and sampling has a personal conflict of interest

(2) 25 people driving past Yonkers High School

(3) 75 people who enter a Yonkers grocery store

(4) 100 people who visit the local Yonkers shopping mall

Univariate • Involving a single variable • Example: High or low temperatures	**Bivariate** • Relationship between two variables • Example: shoe size compared to height.

5. Which is an example of univariate data?

(1) Heart rate at different ages

(2) Heart rate compared with hours of sleep

(3) Heart rate compared with hours of exercise a week

(4) Heart rate

6. Which situation should be analyzed using bivariate data?

(1) Ms. Saleem keeps a list of the amount of time her daughter spends on her social studies homework.

(2) Mr. Benjamin tries to see if his students' shoe sizes are directly related to their heights.

(3) Mr. DeStefan records his customers' best video game scores during the summer.

(4) Mr. Chan keeps track of his daughter's algebra grades for the quarter.

(5)

7. Four hundred licensed drivers participated in the math club's survey on driving habits. The table shows the number of drivers surveyed in each age group. Which statement best describes a conclusion based on the data in the table?

(1) It may be biased because no one younger than 16 was surveyed.

(2) It would be fair because many different age groups were surveyed.

(3) It would be fair because the survey was conducted by the math club students.

(4) It may be biased because the majority of drivers surveyed were in the younger age intervals.

Ages of People in Survey on Driving Habits

Age Group	Number of Drivers
16–25	150
26–35	129
36–45	33
46–55	57
56–65	31

279

400

8. Which table does *not* show bivariate data?

We want univariate

(1)

Height (inches)	Weight (pounds)
39	50
48	70
60	90

(2)

Gallons	Miles Driven
15	300
20	400
25	500

(3)

Quiz Average	Frequency
70	12
80	15
90	6

(4)

Speed (mph)	Distance (miles)
40	80
50	120
55	150

9. Which set of data can be classified as quantitative?

(1) first names of students in a chess club
(2) ages of students in a government class
(3) hair colors of students in a debate club
(4) favorite sports of students in a gym class

10. Which is an example of bivariate data?

(1) Drink size in ounces
(2) Drink cost in dollars
(3) Drink size compared to cost
(4) Drink temperature in degrees Fahrenheit

11. Which set of data can be classified as qualitative?

(1) scores of students in an algebra class
(2) ages of students in a biology class
(3) numbers of students in history classes
(4) eye colors of students in an economics class