**CHAPTER 2: LEVELS OF MEASUREMENT AND AGGREGATION**

**PRACTICE PROBLEMS**

1. If I measured the age, IQ, and number of prior delinquent acts committed within a sample of 200 boys sent to juvenile court:
2. Would age be a variable or a constant?
3. Would IQ be a variable or a constant?
4. Would sex (gender) be a variable or a constant?
5. If I was interested in knowing whether or not boys who had low IQ scores were more delinquent than boys with higher IQ scores, what would be my independent variable and what would be my dependent variable?
6. If I was interested in knowing if older boys were more likely to be delinquent than younger boys, what would be my independent variable and what would be my dependent variable?
7. What is the level of measurement for the following variables:
8. Age measured as the number of years old someone is.
9. Age measured as: under 10 years old or younger

10-29 years old

30-59 years old

60 years old or older

1. Whether someone went to a public, private or parochial elementary school.
2. Number of prior convictions measured as the actual number of convictions.
3. Number of prior convictions measured as: None

1-2 convictions

3-4 convictions

5-6 convictions

7 or more convictions

1. Number of months sentenced to prison in actual months.
2. Type of weapon used in committing a murder: gun, knife, club or other blunt instrument, hands, some other means.
3. Calculate the rate of hate crimes for the following cities:

# of Hate Crimes Population Rate per 100,000

Boston, MA 234 6,453,442

Columbus, OH 112 1,132,475

Montgomery, AL 100 425,185

Los Angeles, CA 198 8,453,809

Chicago, IL 202 9,535,000

New York, NY 255 10,435,333

1. In which city are you most likely to become the victim of a hate crime? In which city are you least likely to become the victim of a hate crime?
2. Here is a frequency distribution of the number of executions in several U.S. states in the past five years.

State # of executions p %

Alabama 6

Virginia 13

Texas 52

Maryland 1

Louisiana 8

Oklahoma 24

Total

Calculate the total number of executions in these states, and fill in the column of proportions and percentages.

1. What percent of the total number of executions were done in Texas?
2. What proportion of the total number of executions were done in Virginia?
3. How many executions were done in Oklahoma?