

**Complete all exercises and examples referenced in the following introductory notes for Chapter 1. Your textbook can be downloaded through Mosyle School Manager. Responses will be graded on clarity and completeness. Submission is through Canvas and due Monday, August 12, 2024 at 7:30 am. (Note: the assignment will not become active for submission until 12:00 am on Monday.) This will be graded as a quiz assignment.**

### CHAPTER 1 INTRODUCTION – DATA ANALYSIS: MAKING SENSE OF DATA

Data Analysis – organizing, displaying, and summarizing data as well as asking questions

Individuals – objects described by a set of data

Variable – any characteristic of an individual

Categorical variable (aka qualitative variable) – places an individual into one of several groups or categories

Quantitative variable – takes on numerical values for which it makes sense to find an average

\*Read example on page 3 and 4: “Census at School”

\*Example: U.S. Census data – Here is information about 10 randomly selected U.S. residents from a recent census.

| STATE        | NUMBER OF FAMILY MEMBERS | AGE | GENDER | MARITAL STATUS | TOTAL INCOME | TRAVEL TIME TO WORK |
|--------------|--------------------------|-----|--------|----------------|--------------|---------------------|
| Kentucky     | 2                        | 61  | Female | Married        | 21,000       | 20                  |
| Florida      | 6                        | 27  | Female | Married        | 21,300       | 20                  |
| Wisconsin    | 2                        | 27  | Male   | Married        | 30,000       | 5                   |
| California   | 4                        | 33  | Female | Married        | 26,000       | 10                  |
| Michigan     | 3                        | 49  | Female | Married        | 15,100       | 25                  |
| Virginia     | 3                        | 26  | Female | Married        | 25,000       | 15                  |
| Pennsylvania | 4                        | 44  | Male   | Married        | 43,000       | 10                  |
| Virginia     | 4                        | 22  | Male   | Single         | 3,000        | 0                   |
| California   | 1                        | 30  | Male   | Single         | 40,000       | 15                  |
| New York     | 4                        | 34  | Female | Separated      | 30,000       | 40                  |

Problem:

- Who are the individuals in this data set?
- What variables are measured? Identify each as categorical or quantitative.
- Describe the individual in the first row.
- What are three characteristics you can say about the individual in the eighth row that is different from the other individuals?

Distribution of a Variable – tells us what values the variable takes and how often it takes these variables

Inference – drawing conclusions that go beyond the data at hand

\*Do “Check your understanding” on page 4 in the textbook.

\*Do exercises 1 – 8 on pages 6 – 7 in the textbook.