Chapter 2: Data

What are data?

In order to determine the context of data, consider the “W’s”
• Who –
  • What (and in what units) –
• When –
• Where –
• Why –
• How –

There are two major ways to treat data:
• A _______________ _______________ is used to answer questions about how cases fall into categories. A categorical variable may be comprised of word labels, or it may use numbers as labels.
  Examples:
• A _______________ _______________ is used to answer questions about the quantity of what is being measured. A quantitative variable is comprised of numeric values.
  Examples:

What is a statistic?

Are the numbers 17, 21, 44, 76 data?

Data must have ______ to be meaningful. The numbers listed above could be test scores, ages of a group of golfers, or the uniform numbers of the starting backfield on the football team. Without ______ data cannot be interpreted.
Suppose a Consumer Reports article (published in June 2005) on energy bars gave the brand name, flavor, price, number of calories, and grams of protein and fat. Identify the following:

- Who:
- What:
- When:
- Where:
- How:
- Why:
- Categorical variables:
- Quantitative variables (with units):

A report on the Boston Marathon listed each runner’s gender, county, age, and time. Identify the following:

- Who:
- What:
- When:
- Where:
- How:
- Why:
- Categorical variables:
- Quantitative variables (with units):