Types of Data

- Population Data – everything or everyone we are studying

- Sample Data – a subset of the population

Examples

Identify the population and the sample for the of the following situations.

- University of Houston is interested in how many of their students buy used books as opposed to new ones. They randomly choose 100 students from the student center to interview.

The population would consist of all students at the University of Houston.

The sample consists of the 100 students chosen to interview.

- An elementary school is creating a new lunch menu and they want to know if it will appeal to their students. They send home questionnaires to students with last names that begin with the letters M through R.

The population is all students at that elementary school.

The sample consists of the students whose last names begin with the letters M through R.

- A variable is a characteristic of an individual that can assume more than one value. Variables can be classified as categorical (qualitative) or quantitative (numeric).

- Categorical variables describe qualities or characteristics that data may have. They usually represent a "type of something" such as a type of car.

- Quantitative variables are measurements. These will be numeric values.

- Quantitative variables can be classified as either discrete or continuous..

- Discrete quantitative variables are countable.
  – For example: the number of lives given in a single play of a video game
- Continuous quantitative variables can take on any value in an interval.
  – For example: the amount of time you wait in line at the drivers license office

Examples: Classify the following variables as categorical or quantitative. If quantitative, state whether the variable is discrete or continuous.

- Political preference
  - categorical
- Number of siblings
  - Quantitative, discrete
- Blood type
  - categorical
- Height of men on the UH basketball team
  - Quantitative, continuous
- Time it takes to be on hold when calling the IRS
  - Quantitative, continuous