

Lesson 13-1

Example 1 Classify a Random Sample

A shopping mall wants to know if they should put a movie theater in the mall. Every hour, the mall manager questions 20 of the people coming into the mall.

- a. Identify the sample and suggest a population from which it was selected.

The sample is a group of shoppers at the mall, 20 every hour. The population is all mall customers.

- b. Classify the sample as *simple*, *stratified*, or *systematic*.

This is a systematic random sample. The people questioned are chosen according to a time interval.

Example 2 Identify Sample as Biased or Unbiased

A sub sandwich store owner wants to make sure that his employees are weighing the meat correctly to put on the sandwiches. He watches the meat being weighed for one hour during the day. Classify the sample as *biased* or *unbiased*.

The sample is biased since he is watching only one employee for only one hour during the day.

Example 3 Identify and Classify a Biased Sample

A fast food restaurant is testing a new food item. To test if the customers are satisfied, the store owner asks the first 15 customers of the day if they would purchase the item.

- a. Identify the sample and suggest a population from which it was selected.

The sample is the first 15 customers of the day at the fast food restaurant. The population is all customers of the fast food restaurant.

- b. Classify the sample as a *convenience sample* or a *voluntary response sample*.

Since this involves a population that is easily accessed, this represents a convenience sample.

Example 4 Identify a Sample

A state tourist board wants to determine the state's favorite camping sight. They send a survey to all mailing addresses to be filled out and mailed back to them. Identify the type of sample.

This is a voluntary response sample. Only those that want to participate in the survey will mail their response back.