4 Select and Draw Conclusions from Samples

A **population** is a group of people or objects that you want information about. When it is too difficult, time-consuming, or expensive to survey everyone in a

population, information is gathered from a **sample**, or subset, of the population.



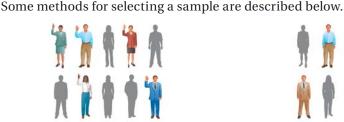
You used statistics to describe sets of data. You will study different sampling methods for collecting data. So you can interpret the results of a survey, as in Ex. 27.



Key Vocabulary

ека а.1, а.5, а.6, 2А.2.А

- population
- sample
- unbiased sample
- biased sample
- margin of error



In a *self-selected sample*, members of a population can volunteer to be in the sample.



In a *convenience sample*, easy-to-reach members of a population are selected, such as those in the first row.



In a *systematic sample*, a rule is used to select members of a population, such as selecting every other person.



In a *random sample*, each member of a population has an equal chance of being selected.

EXAMPLE 1) Classify samples

BASEBALL A sportswriter wants to survey college baseball coaches about whether they think wooden bats should be mandatory throughout college baseball. Identify the type of sample described.

- **a.** The sportswriter contacts only the coaches that he has cell phone numbers for in order to get quick responses.
- **b.** The sportswriter mails out surveys to all the coaches and uses only the surveys that are returned.

Solution

- **a.** The sportswriter selected coaches that are easily accessible. So, the sample is a convenience sample.
- **b.** The coaches can choose whether or not to respond. So, the sample is a self-selected sample.