
Review Exercises

1. Walmart Stores Currently, there are 4227 Walmart stores in the United States and another 3210 stores outside of the United States.

- Are the numbers of Walmart stores discrete or continuous?
- What is the level of measurement for the numbers of Walmart stores in different years? (nominal, ordinal, interval, ratio)
- If a survey is conducted by randomly selecting 10 customers in every Walmart store, what type of sampling is used? (random, systematic, convenience, stratified, cluster)
- If a survey is conducted by randomly selecting 20 Walmart stores and interviewing all of the employees at the selected stores, what type of sampling is used? (random, systematic, convenience, stratified, cluster)
- What is wrong with surveying customer satisfaction by mailing questionnaires to 10,000 randomly selected customers?

2. What's Wrong? A survey sponsored by the American Laser Centers included responses from 575 adults, and 24% of the respondents said that the face is their favorite body part (based on data from *USA Today*). What is wrong with this survey?

3. What's Wrong? A survey included 4230 responses from Internet users who decided to respond to a question posted by America OnLine (AOL). Here is the question: How often do you use credit cards for purchases? Among the respondents, 67% said that they used credit cards frequently. What is wrong with this survey?

4. Sampling Seventy-two percent of Americans squeeze their toothpaste tube from the top. This and other not-so-serious findings are included in *The First Really Important Survey of American Habits*. Those results are based on 7000 responses from the 25,000 questionnaires that were mailed.

- What is wrong with this survey?
- As stated, the value of 72% refers to all Americans, so is that 72% a statistic or a parameter? Explain.
- Does the survey constitute an observational study or an experiment?

5. Percentages

a. The labels on U-Turn protein energy bars include the statement that these bars contain "125% less fat than the leading chocolate candy brands" (based on data from *Consumer Reports* magazine). What is wrong with that claim?

b. In a Pew Research Center poll on driving, 58% of the 1182 respondents said that they like to drive. What is the actual number of respondents who said that they like to drive?

c. In a Pew Research Center poll on driving, 331 of the 1182 respondents said that driving is a chore. What percentage of respondents said that driving is a chore?

6. Why the Discrepancy? A Gallup poll was taken two years before a presidential election, and it showed that Hillary Clinton was preferred by about 50% more voters than Barack Obama. The subjects in the Gallup poll were randomly selected and surveyed by telephone. An America OnLine (AOL) poll was conducted at the same time as the Gallup poll, and it showed that Barack Obama was preferred by about twice as many respondents as Hillary Clinton. In the AOL poll, Internet users responded to voting choices that