

**32. Dollar for Your Thoughts** In a Harris poll of 2513 adults, 76% said that they prefer \$1 to be in the form of paper currency.

- What is the exact value that is 76% of 2513?
- Could the result from part (a) be the actual number of adults who said that they prefer \$1 to be in the form of paper currency? Why or why not?
- What is the actual number of adults who said that they prefer \$1 to be in the form of paper currency?
- Among the 2513 respondents, 327 said that they prefer \$1 to be currency in the form of a coin. What is the percentage of respondents who said that they prefer \$1 to be currency in the form of a coin?

**33. Percentages in Advertising** An ad for Big Skinny wallets included the statement that one of their wallets “reduces your filled wallet size by 50%–200%.” What is wrong with this statement?

**34. Percentages in Advertising** In an ad for the Club, a device used to discourage car thefts, it was stated that “The Club reduces your odds of car theft by 400%.” What is wrong with this statement?

**35. Percentages in the Media** In the *New York Times Magazine*, a report about the decline of Western investment in Kenya included this statement: “After years of daily flights, Lufthansa and Air France had halted passenger service. Foreign investment fell 500 percent during the 1990s.” What is wrong with this statement?

**36. Percentages in Advertising** A *New York Times* editorial criticized a chart caption that described a dental rinse as one that “reduces plaque on teeth by over 300%.” What is wrong with this statement?

## 1-2 Beyond the Basics

**37. ATV Accidents** The Associated Press provided an article with a headline stating that ATV accidents killed 704 people in the last year. The article noted that this is a new record high and compares it to 617 ATV deaths the year before that. Other data about the frequencies of injuries were included. What important value was not included? Why is it important?

**38. Falsifying Data** A researcher at the Sloan-Kettering Cancer Research Center was once criticized for falsifying data. Among his data were figures obtained from 6 groups of mice, with 20 individual mice in each group. The following values were given for the percentage of successes in each group: 53%, 58%, 63%, 46%, 48%, 67%. What’s wrong with those values?

**39. What’s Wrong with This Picture?** The *Newport Chronicle* ran a survey by asking readers to call in their response to this question: “Do you support the development of atomic weapons that could kill millions of innocent people?” It was reported that 20 readers responded and that 87% said “no,” while 13% said “yes.” Identify four major flaws in this survey.

## 1-3 Types of Data

**Key Concept** A common and important use of statistics involves collecting sample data and using them to make inferences, or conclusions, about the population from which the data were obtained. The terms *sample* and *population* were defined in Section 1-1. We should also know and understand the meanings of the terms *statistic* and *parameter*, as defined below. The terms *statistic* and *parameter* are used to distinguish