Stats_HW1

1.3

A politician who is running for the office of mayor of a city with 25,000 registered voters commissions a survey. In the survey, 48% of the 200 registered voters interviewed say they plan to vote for her.

a. What is the population of interest?
b. What is the sample?
c. Is the value 48% a parameter or a statistic? Explain.

1.6 (Just for you understanding Exercise 1.7)

You are shown a coin that its owner says is fair in the sense that it will produce the same number of heads and tails when flipped a very large number of times.

1.7

Suppose that in Exercise 1.6 you decide to flip the coin 100 times.

a. What conclusion would you be likely to draw if you observed 95 heads?
b. What conclusion would you be likely to draw if you observed 55 heads?
c. Do you believe that, if you flip a perfectly fair coin 100 times, you will always observe exactly 50 heads? If you answered "No," then what number do you think are possible? If you answered "Yes," how many heads would you observe if you flipped the coin twice? Try flipping a coin twice and repeating this experiment 10 times and report the results.

2.5

Residents of condominiums were recently surveyed and asked a series of questions. Identify the type of data for each question.

a. What is your age?
b. On what floor is your condominium?
c. Do you own or rent?
d. How large is your condominium?
e. Does your condominium have a pool?

2.11

A survey of taxpayers who complete their own tax returns were asked the following questions. Determine the type of data each question produces.

a. Did you use software?
b. How long did it take you to complete this year's return?
c. Rate the ease with which you completed this year's return (very easy, quite easy, neither easy or difficult, quite difficult, very difficult)

2.13 Xr02-13

When will the world run out of oil? One way to judge is to determine the oil reserves of the countries around the world. The next table displays the known reserves of the top 15 countries. Graphically describe the figures.

2.29 Xr02-29

Subway train riders frequently pass the time by reading a newspaper. New York City has a subway and four newspapers. A sample of 360 subway riders who regularly read a newspaper was asked to identify that newspaper. The responses are as follows:

1. *New York Daily News*
2. *New York Post*
3. *New York Times*
4. *Wall Street Journal*

The responses were recorded using the numerical codes shown.

a. Produce a frequently distribution and a relative frequency distribution.
b. Draw an appropriate graph to summarize the data. What does the graph tell you?

2.41 Xr02-41

Has the educational level of adults changed over the past 15 years? To help answer this question the Bureau of Labor Statistics compiled the following table, which lists the number (1,000) of adults 25 years of age and older who are employed. Use a graphical technique to present these figures. Briefly describe what the chart tells you.

2.51 Xr02-35*

In Exercise 2.35 a Gallup survey asked American adults whether they believed that upper-income people are paying their fair share in federal taxes. Each respondent was also classified as

1. Conservative
2. Moderate
3. Liberal

Present a graphical method to determine whether there are differences between the three political groups in their responses to the issue of higher-income people paying their fair share of federal taxes.