

Exercise 1.12.16

Nineteen immigrants to the U.S. were asked how many years, to the nearest year, they have lived in the U.S. The data are as follows:

2; 5; 7; 2; 2; 10; 20; 15; 0; 7; 0; 20; 5; 12; 15; 12; 4; 5; 10

The following table was produced:

Frequency of Immigrant Survey Responses

Data	Frequency	Relative Frequency	Cumulative Relative Frequency
0	2	$\frac{2}{19}$	0.1053
2	3	$\frac{3}{19}$	0.2632
4	1	$\frac{1}{19}$	0.3158
5	3	$\frac{3}{19}$	0.1579
7	2	$\frac{2}{19}$	0.5789
10	2	$\frac{2}{19}$	0.6842
12	2	$\frac{2}{19}$	0.7895
15	1	$\frac{1}{19}$	0.8421
20	1	$\frac{1}{19}$	1.0000

Table 1.25

- Fix the errors on the table. Also, explain how someone might have arrived at the incorrect number(s).
- Explain what is wrong with this statement: "47 percent of the people surveyed have lived in the U.S. for 5 years."
- Fix the statement above to make it correct.
- What fraction of the people surveyed have lived in the U.S. 5 or 7 years?
- What fraction of the people surveyed have lived in the U.S. at most 12 years?
- What fraction of the people surveyed have lived in the U.S. fewer than 12 years?
- What fraction of the people surveyed have lived in the U.S. from 5 to 20 years, inclusive?

Exercise 1.12.6

A cardiologist is interested in the mean recovery period for her patients who have had heart attacks. Define the following in terms of the study. Give examples where appropriate.

- a.** Population
- b.** Sample
- c.** Parameter
- d.** Statistic
- e.** Variable
- f.** Data

Exercise 1.12.10

Political pollsters may be interested in the proportion of people that will vote for a particular cause. Define the following in terms of the study. Give examples where appropriate.

- a. Population
- b. Sample
- c. Parameter
- d. Statistic
- e. Variable
- f. Data

Exercise 1.12.13

Suppose you want to determine the mean number of students per statistics class in your state. Describe a possible sampling method in 3 – 5 complete sentences. Make the description detailed.

Exercise 1.12.14

Exercise 1.12.17

A "random survey" was conducted of 3274 people of the "microprocessor generation" (people born since 1971, the year the microprocessor was invented). It was reported that 48% of those individuals surveyed stated that if they had \$2000 to spend, they would use it for computer equipment. Also, 66% of those surveyed considered themselves relatively savvy computer users. (Source: San Jose Mercury News)

- a. Do you consider the sample size large enough for a study of this type? Why or why not?
- b. Based on your "gut feeling," do you believe the percents accurately reflect the U.S. population for those individuals born since 1971? If not, do you think the percents of the population are actually higher or lower than the sample statistics? Why?

Additional information: The survey was reported by Intel Corporation of individuals who visited the Los Angeles Convention Center to see the Smithsonian Institute's road show called "America's Smithsonian."

- c. With this additional information, do you feel that all demographic and ethnic groups were equally represented at the event? Why or why not?
- d. With the additional information, comment on how accurately you think the sample statistics reflect the population parameters.