

STAT 614 CHAPTER 1

Practicing with the basics

1) A medical university conducts an annual national survey of cancer patients who are in remission about their lifestyle habits. In 2016, 1764 patients were surveyed.

Identify the following:

- a) subjects
- b) sample
- c) population

2) A lecturer at an arts college wants to research social media usage among students. The lecturer sends out an online questionnaire to the entire student body of 2,234 students. Out of this number only 127 students respond. One question asked is, "How many hours per day do you spend on social media?"

a) Identify the population of interest.

b) For the 2,234 students, one characteristic of interest was the percentage of who would respond "zero" to this question. This value is computed for the 127 students who responded. Is it a parameter or a statistic. Why ?

3) A social survey agency In Norway conducted a study on a sample of 1520 subjects and asked them whether eating a vegan diet reduces chances of suffering a stroke. Out of 1520 sampled subjects, 761 responded that *probably true*, and 759 responded *probably not true*. The proportion of responding *probably not true* was $759/1520 = .499$.

a) Describe or identify the population that may not be of interest to this exercise.

3) A social survey agency in Norway conducted a study on a sample of 1520 subjects and asked them whether eating a vegan diet reduces chances of suffering a stroke. Out of 1520 sampled subjects, 761 responded that *probably true*, and 759 responded *probably not true*. The proportion of responding *probably not true* was $759/1520 = .499$.

b) Which population parameter cannot be inferred from the sample statistic given?

c) What is the proportion that of people who *responded probably true*?

d) Will the value of the population statistic be the same as the sample statistic?

Explain

4) A multi-country poll in 2019 asked if people were willing to bear higher prices for energy and other goods to take steps to fight climate change. The percentages of people who responded by saying yes in various countries were 68% (China), 59% (Vietnam), 53% (Japan), 51% (Iran), and 51% (Mexico). The results indicate that the majority of people in these five countries were willing to bear higher prices. The results of this poll are an example of (select one)

a) inferential statistics

b) descriptive and inferential statistics

c) descriptive statistics

d) design of a study

5)

SUBJECT / NAME	GENDER	POLITICAL PARTY	AGE
1. RON	MALE	DEMOCRAT	37
2. MARY	FEMALE	REPUBLICAN	27
3. ALICE	FEMALE	DEMOCRAT	39
4. LEON	MALE	REPUBLICAN	28
5. MARY	FEMALE	REPUBLICAN	24
6. JUAN	MALE	REPUBLICAN	26
7. REESE	MALE	DEMOCRAT	32
8. FAYE	FEMALE	INDEPENDENT	28

Eight individuals were randomly selected and surveyed from a popular bar in downtown DC. Information was collected and organized into the Data File given above.

- a) How many rows and how many columns does the Data File have?
- b) What are the observations for the subject Mary?
- c) What are the observations for characteristic Gender?
- d) Does the data provided represent a sample or a population?
- e) The average age in the table above is approximately 30.13. Is this a statistic or a parameter?
- f) It is predicted that between 46% and 48% of the total number of patrons of the bar are men on any given night.

Select all that apply for this estimate.

- 1) sample_____
- 2) population _____
- 3) descriptive statistics for the sample_____
- 4) inferential statistical analysis_____

