



1. Lauren wants to determine what the average house price is for single family homes in Los Angeles, California. She randomly selects 50 single family homes in Los Angeles and looks up the most recent value for each of these 50 homes. What is the sample in this study?

- a. All residents of Los Angeles, California
- b. All single-family homeowners in Los Angeles, California
- c. All single-family homes in Los Angeles, California
- d. The 50 selected homes in Los Angeles, California
- e. The homeowners of the 50 selected homes in Los Angeles, California

2. What is the name of a study that the purpose is to determine whether a treatment causes a change in the variable of study (i.e. clinical trial)?

- a. Observational Study
- b. Randomized Experiment
- c. Census
- d. Sample Survey
- e. More than one of the above

3. Which of the following is an example of a self-selected sample?

- a. Researcher splits their population into a group of a males and a separate group of females; she takes a random sample of 25 males and a separate random sample of 25 females
- b. Radio asks people listening to call in and say whether or not they want a new stoplight at a busy intersection
- c. Student asks 15 classmates to answer a survey about university fees
- d. Researcher at a major university randomly selects 50 students to participate in a survey. She sends the survey to the 50 selected students via email and 45 of them return the survey. – this error is called no-response
- e. More than one of the above

4. In what type of study would you generally know the value of the parameter?

- a. Experiment
- b. Census
- c. Sample Survey
- d. All of the Above



5. “What is the average age of people in Salt Lake City?”

Population: All people living in Salt Lake City.

Sample: 10 people picked randomly from all people living in Salt Lake City.

Is the sample representative?

Yes

6. Explain what the difference between descriptive statistics and inferential statistics.

The difference between the two methods is that descriptive statistics is limited to only the data being summarized, whereas inferential statistics applies to a larger population than those observed

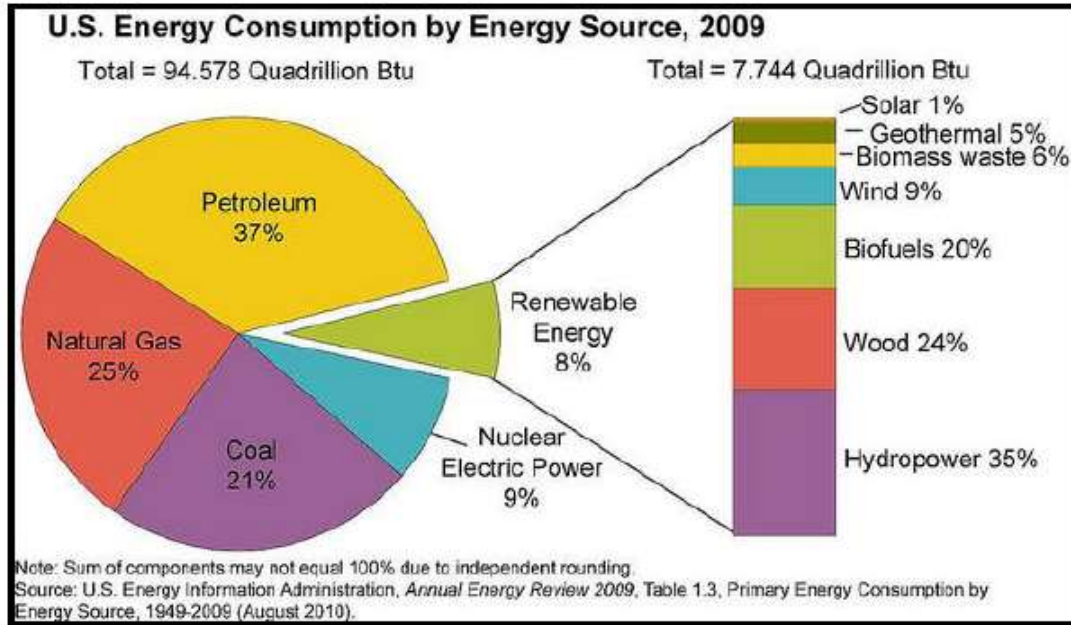
7. Explain the difference between a survey and a census.

A survey is based on results from a (representative) sample, or subset, of the population, while a census is based on results from the entire population.

8. Jim is conducting a health survey of residents of the Brazos Valley. He asks participants their age, height, weight, type of insurance, marital status, income, number of people living in their household, and number of days they were sick in the last month. How many of his variables were qualitative and how many of his variables were quantitative?

- a. 2 qualitative and 6 quantitative
- b. 3 qualitative and 5 quantitative
- c. 4 qualitative and 4 quantitative
- d. 5 qualitative and 3 quantitative
- e. 6 qualitative and 2 quantitative

Questions 10 – 11 : The pie chart below shows the US Energy Consumption by Energy Source for the year 2009.



9. The source with the highest consumption was

- a) petroleum.
- b) natural gas.
- c) coal.
- d) renewable energy.

10. The combined percent of petroleum and natural gas was

- a) less than 25% of the total energy consumption.
- b) between 25% and 50% of the total energy consumption.
- c) between 50% and 75% of the total energy consumption.
- d) more than 75% of the total energy consumption.

11. Among 300 fatal car accidents, 135 were single-car crashes, 66 were two-car crashes, and 99 involved three or more cars. Calculate the relative frequency and percent of fatal car accidents by the number of cars involved.

Single car crashes 0.45 (45%); Two car crashes 0.22 (22%); Three car crashes 0.33 (33%).

A survey of a random sample of 100 nurses working at a large hospital asked how many years they had been working in the profession. Their answers are summarized in the following (incomplete) table. Fill in the blanks in the table and round your answers to two decimal places:



# of years	Frequency	Cumulative frequency	Relative frequency	Cumulative relative frequency
<5	25	25	$25/100=.25$.25
5-10	30	55	$30/100=.3$.55
>10	45	100	$45/100=.45$	1

12. What proportion of nurses have five or more years of experience?

.75

13. What proportion of nurses have ten or fewer years of experience?

.55