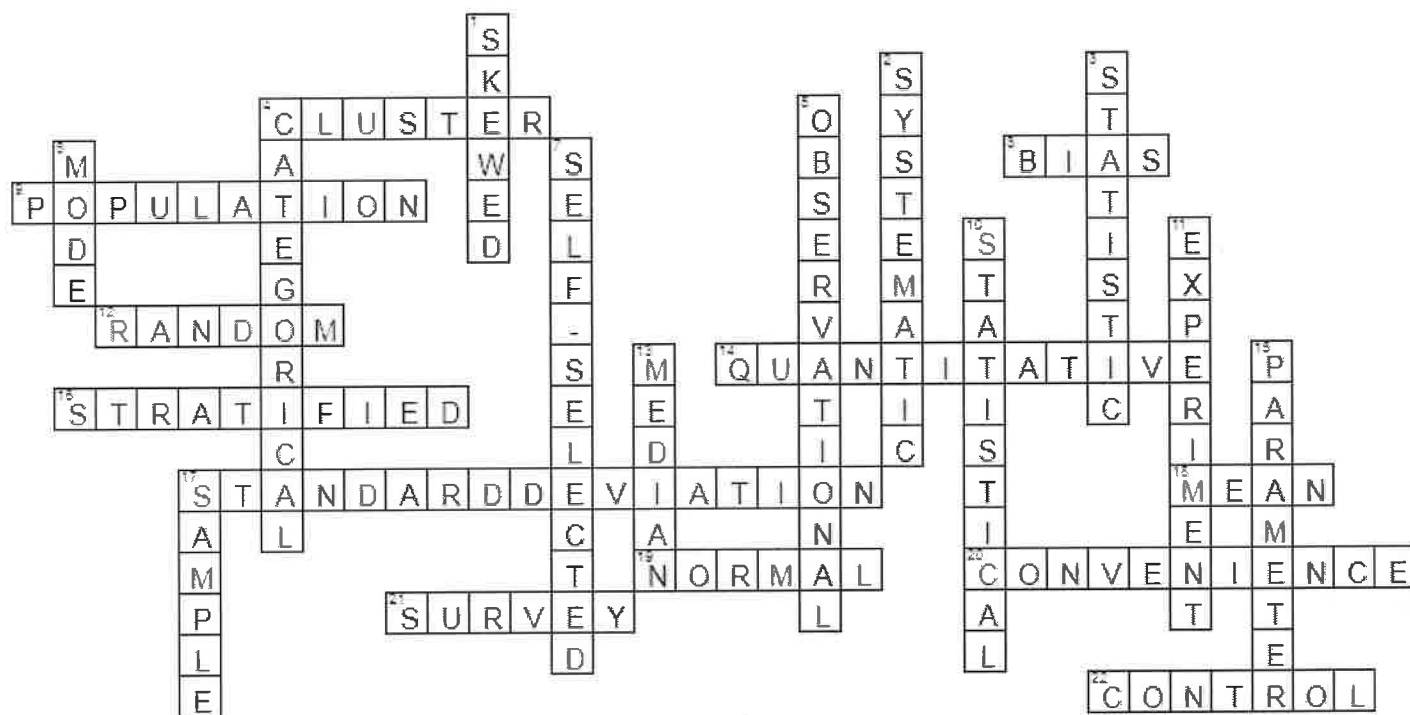


SOLUTION



Answer questions 1-3 based on the scenarios below.

- The Glass Pane Company calls numbers on Mondays during the day that were randomly chosen from the telephone book and asks the person who answers the phone, "in what year were the windows in your home installed?"
- Mario wanted to determine whether temperature affects the level of animal activity. At a park near his house one day he recorded the number of animals he saw between 1:00 and 2:00 pm when it was 85°F. Then the same park another day he recorded the number of animals he saw between 1:00 and 2:00 pm when it was 55°F.
- Sienna wants to know if the citizens of her town think the price of a movie ticket is fair and asks every other person standing in the ticket line, "Do you think movie tickets are overpriced?"

1. Identify which type of data collection was used.

a) Sample Survey b) Observational c) Sample Survey

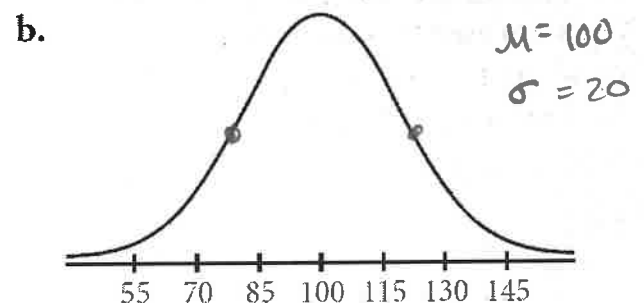
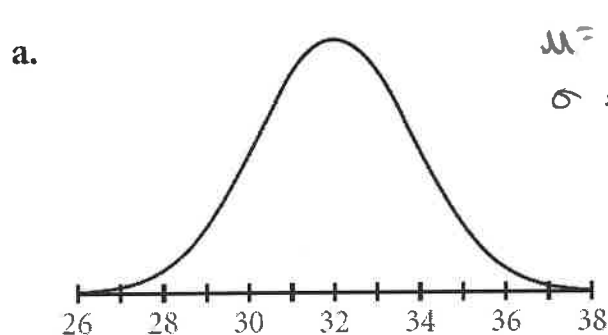
2. Identify at least one source of bias in each study.

a) time & day calling b) only observed twice & btwn 1 & 2
c) phrasing of question & asking people going to movie

3. What is one thing you would do or change to improve the design of this study?

a) call over wider time period & on different days
b) observe at different times and locations
c) Ask at a neutral location

4. From each graph below, estimate the mean and standard deviation.



5. Identify the statistic and the parameter in the studies below.

- a) A nutritionist wants to estimate the mean amount of sodium consumed by children under the age of 10. From a random sample of 75 children under the age of 10, the nutritionist obtains a sample mean of 2993 milligrams of sodium consumed.

Statistic: mean sodium intake of 75 kids

parameter: sodium intake of all kids under 10

- b) Ms. Lee wants to know what kinds of things her students do to prepare for her tests. Ms. Lee placed the names of her students into a box. To determine who she would ask about their study habits she asked a student to draw names from the box.

Statistic: answers from students names that were drawn

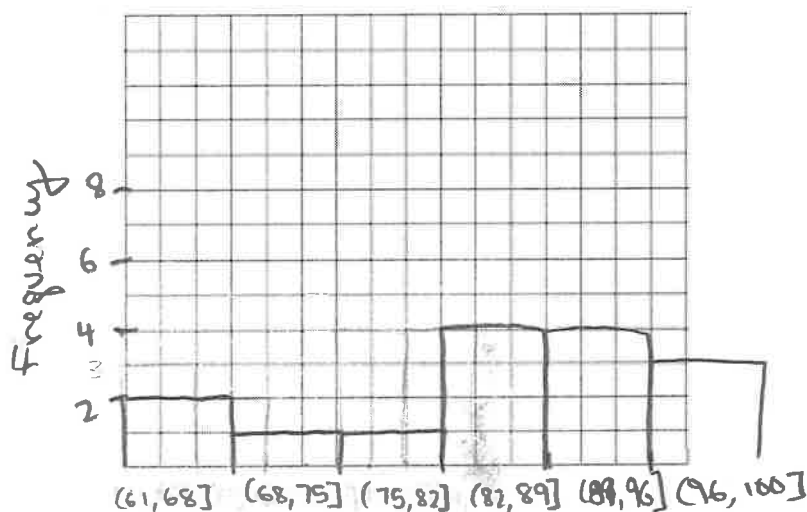
parameter: answers of all her students

6. Identify each of the sampling methods described below:

a. A manager surveys every fourth customer about their level of satisfaction with their shopping experience.	systematic random sampling
b. When a school district wishes to get feedback on the district's new webpage, they survey the entire population of randomly selected schools.	cluster sampling
c. When Sheila wanted to find out what type of music was most popular among the students in her history class, she asked the two students who sat on either side of her.	convenience sampling
d. The quality control officer of a ladder manufacturer walked into the shop, pulled the five closest ladders, and gave them several stress tests checking for potential defects.	convenience sampling

7. The test scores for 15 students on the Algebra 2 MC Final were 61, 67, 70, 81, 83, 87, 88, 89, 90, 92, 92, 96, 97, 98, 98.

a) Make a frequency histogram for the data set.



b) Calculate the five number summary.

61, 81, 89, 96, 98

c) State the range and IQR.

Range: 37

IQR: 15

d) Describe the data as skewed left, skewed right or symmetric.

Skewed left

e) What is the best measure of center and spread for the data and why?

median & IQR