

Statistics Assignment

Identifying Types of Data and Statistics

Part 1: (13 points)

Note: Justify your answers. For example, when a question asks if a particular example of data is qualitative or quantitative, state your answer and then state *why* the data are quantitative or categorical. Show the instructor your reasoning process for arriving at your answer.

1. Identify each variable as quantitative or qualitative (1 point each):
 - A. Amount of time it takes to assemble a simple prize
 - B. Number of students in a first-grade classroom
 - C. Rating of a newly elected politician (excellent, good, fair, poor)
 - D. State in which a person lives
2. Identify the following quantitative variables as discrete or continuous (1 point each):
 - A. Population in a particular area of the United States
 - B. Weight of newspapers recovered for recycling on a single day
 - C. Time to complete a sociology exam
 - D. Number of consumers in a poll of 1000 who consider nutritional labeling on food products important
3. A medical researcher wants to estimate the survival time of a patient after the onset of a particular type of cancer and after a particular regimen of radiotherapy.
 - A. What is the variable of interest to the medical researcher? (1 point)
 - B. Is the variable in part A qualitative, quantitative discrete, or quantitative continuous? (1 point)
4. Fifty people are grouped into four categories—A, B, C, and D—and the number of people who fall into each category is shown in the table:

Category	Frequency
A	11
B	14
C	20
D	5

- A. What is the variable being measured? Is it qualitative or quantitative? (2 points)

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5. The 1960s generation was never as radical as it was portrayed. According to an opinion poll in *The American Enterprise*, when a group of 30-40-year-olds were asked to describe their political views in the 1960s and early 1970s, they gave these responses:

Conservative:	28%
Moderate:	35%
Liberal:	31%
Radical:	6%

Source: Karlyn Bowman, ed., "Opinion Pulse: '60s Kids: The Way They Were," *The American Enterprise*, May/June 1997; p. 91.

- A. Is the variable qualitative or quantitative? (1 point)

Part 2: (12 points)

Answer these questions.

- This July, the U.S. House of Representatives voted to cut taxes for American citizens.
 - How would you classify the record of the vote in the 435-member House; is it a descriptive statistical study or an inferential statistical study? (3 points)
 - A poll asks 435 citizens whether they want the tax cut bill passed. Is this study descriptive or inferential? (3 points)
- National Geographic Magazine* (July, 1999) published an article called "The Shrinking World of Hornbills." (Hornbills are a genus of birds including 54 species.) Suppose you're a naturalist studying these birds. Please answer the following questions about your study of hornbills.
 - If you were to study the total number of eggs produced in one month by female Red-Knobbed Hornbills, would your variable (number of eggs) be categorical, discrete quantitative, or continuous quantitative? (3 points)
 - If you wanted to know the weights of the eggs produced by Red-Knobbed Hornbills, would that variable (weight) be categorical, discrete quantitative, or continuous quantitative? (3 points)

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Acknowledgements

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Part 1 / Question 5:

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