

9.1 Statistical Questions and Data

Chapter 9: Statistics and Data Analysis

Name: _____

Date: _____

Class/Period: _____

Problem 9.1 The question "How old is the principal?" has one fixed answer. Explain why that prevents it from being statistical.

Problem 9.4 A veterinarian records the number of pets in each household. Classify the data as discrete or continuous and justify your choice.

Problem 9.2 The question "How old is each teacher in the school?" expects answers that vary. Identify the variable and explain why the question is statistical.

Problem 9.5 A coach measures each athlete's arm span. Classify the data and explain why measurement, rather than counting, matters.

Problem 9.3 A class records each student's favorite sport. Identify the variable and classify the data as categorical or numerical.

Problem 9.6 Rewrite "How tall is Marcus?" so that it becomes a statistical question about Grade 6 students.

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Problem 9.7 Write a statistical question about homework time. Name the group and the variable clearly.

Problem 9.10 A runner measures her own mile time every Saturday for ten weeks. Explain why a question about one person can still be statistical.

Problem 9.8 The question "What was yesterday's high temperature?" is nonstatistical. Change only the time period so that the question expects variation.

Problem 9.11 Write one statistical and one nonstatistical question about books. Underline the words that create the difference.

Problem 9.9 A survey stores ZIP codes using digits. Explain why ZIP code is categorical data rather than numerical measurement.

Problem 9.12 A cafeteria records lunch choice, wait time, and amount spent. Classify all three variables and explain one classification.

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Problem 9.13 A coach asks, "How long did each runner take to finish the 400-meter race?" Identify the observational units, variable, data type, and source of expected variation.

Problem 9.15 A student says any question mentioning an entire school is statistical. Give a counterexample and explain the flaw in the claim.

Problem 9.14 Create a statistical question whose answers are whole numbers and cannot reasonably be negative. Explain why it meets both conditions.

Problem 9.16 Write two statistical questions that use the same variable but study different groups. Explain how the group changes the meaning of the results.