Data Analysis Quiz (Practice, Version B)

Name: _____ Period: _____ Date: _____

Practice version. 10 questions, 10 points, 15 minutes. Choose the single best answer unless a question says to select two. Code is AP pseudocode (Exam Reference Sheet).

1. A video-sharing site stores each video file (the data). With each video, it also stores the title, the uploader's username, the video's length, the upload date, and the number of views as metadata. Which question can be answered using *only* the metadata?

(A) Which videos show a dog?
(B) Which videos have background music?
(C) Which videos were filmed outdoors?
(D) Which uploader posted the most videos this year?

2. A club keeps the following table of volunteer hours.

	Name	Grade	Activity	Hours
1	Ian	9	tutoring	12
2	Jo	10	park cleanup	15
3	Kai	11	tutoring	8
4	Lia	12	tutoring	10
5	Max	10	food bank	20
6	Nia	11	tutoring	14
7	Oz	9	food bank	6
8	Pam	12	park cleanup	9

How many students did tutoring *and* volunteered at least 10 hours?

(A) 3
(B) 4
(C) 5
(D) 2

3. A student surveyed the school and recorded which club each student belongs to. Which visualization would best compare how many students are in each club?

(A) A scatter plot with club on one axis and grade on the other
(B) A histogram of the number of hours each student spends on homework
(C) A bar chart with one bar per club showing the number of students
(D) A table of student names sorted alphabetically

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4. Data from many cities shows that on days with higher ice cream sales, there are also more sunburns. Which conclusion is best supported by this data?

(A) Eating ice cream causes sunburns.
(B) Getting a sunburn causes people to buy ice cream.
(C) There is no relationship, because some days have high sales and few sunburns.
(D) The two are correlated; a third factor, such as hot sunny weather, may explain both.

5. A form asked users which state they live in. The answers include `"Texas"`, `"TX"`, `"texas"`, and `"Tex."`. Before counting how many users live in each state, what should be done?

(A) Clean the data so that each state is written the same way.
(B) Filter out every row that contains an abbreviation.
(C) Sort the rows alphabetically by state.
(D) Delete the state column, since the answers are inconsistent.

6. A movie data set has one row per movie. For a given row, `rating` contains the rating as a string and `length` contains the length in minutes. A student wants to count the movies rated PG or PG-13 that are *at most* 120 minutes long. Which expression evaluates to `true` exactly when a movie should be counted?

(A) `((rating = "PG") AND (rating = "PG-13")) AND (length ≤ 120)`
(B) `(rating = "PG") OR ((rating = "PG-13") AND (length ≤ 120))`
(C) `((rating = "PG") OR (rating = "PG-13")) AND (length ≤ 120)`
(D) `((rating = "PG") OR (rating = "PG-13")) AND (length < 120)`

7. A school library has two spreadsheets. The first lists each student's name, grade, and library card number. The second lists each library card number and the books checked out on that card. Two students are both named Sam Lee. Every card number is different. Which column should be used to match rows when combining the two spreadsheets?

(A) Library card number
(B) Student name
(C) Grade
(D) Book title

8. A food truck records the following for each day: the date, the location where it parked, and the total dollar amount of sales. Which additional piece of information would be most useful for finding the location with the most customers per day?

(A) The price of the most expensive menu item
(B) The number of orders placed each day
(C) The weather forecast for the next week
(D) The name of the employee who worked that day

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9. A music app's spreadsheet has the columns Title, Plays, and Explicit (`true` or `false`). A student wants the *most-played song that is not explicit* to appear in the first row. The available actions are shown below. Filtering does not change the order of the rows that remain.

Action	Explanation
Filter by explicit	Removes every row whose Explicit value is `true`
Sort by plays	Sorts rows by Plays from greatest to least
Sort by title	Sorts rows by Title alphabetically from A to Z

Which sequences of steps will put the desired song in the first row?

(Select two answers.)

(A) Sort by plays, then filter by explicit
(B) Sort by title, then sort by plays
(C) Filter by explicit, then sort by plays
(D) Filter by explicit, then sort by title

10. A fitness band records a heart rate every minute. When the band is not being worn, it records `0`. The average heart rate calculated from the data comes out far too low. What should be done before calculating the average?

(A) Sort the heart rates from greatest to least.
(B) Filter out the rows with a heart rate of `0`.
(C) Collect data from a different fitness band.
(D) Replace every heart rate with the current average.

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