

AP Statistics · Exploring One-Variable Data · Quiz

Common Core AP Statistics Unit 1 (2026-27) · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This ap statistics one variable quiz asks 10 multiple-choice questions on exploring one-variable data, and each answer comes with a short explanation.

Ten multiple-choice questions on one-variable data: variable types, graphs, skew, boxplots, outliers, z-scores, percentiles and the empirical rule. Each question has exactly one correct answer, and the explanation names the common mistake.

AP StatisticsCommon Core: AP Statistics Unit 1 (2026-27)

Questions

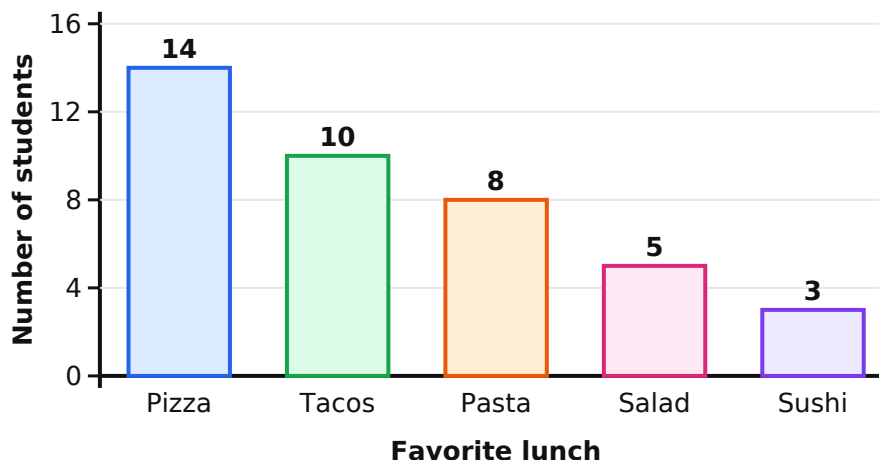
Question 1

Which of these variables is categorical?

- A. The temperature in degrees Fahrenheit
- B. The number of siblings
- C. The area code of a phone number
- D. The time to run a mile

Question 2

The bar chart shows the favorite lunch of 40 students. What percent chose tacos?

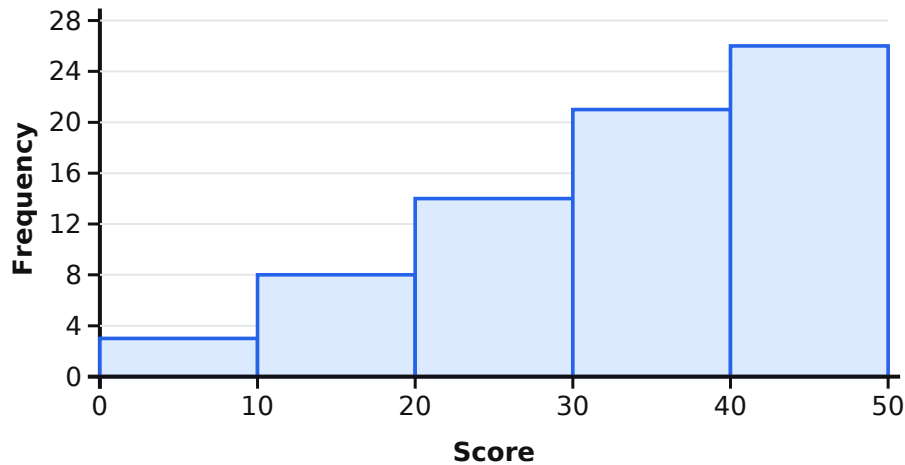


Favorite lunch of 40 students.

- A. 10%
- B. 40%
- C. 35%
- D. 25%

Question 3

Which description fits the histogram best?



Exam scores of 72 students.

- A. Skewed right
- B. Symmetric and unimodal
- C. Skewed left
- D. Bimodal

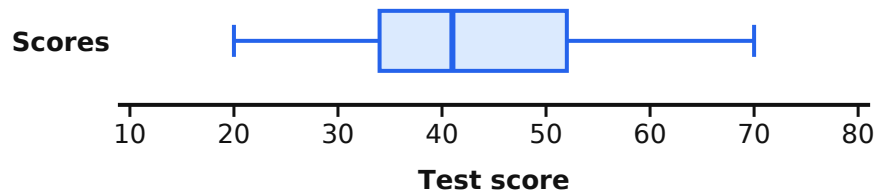
Question 4

A distribution is skewed right. Which statement is most likely true?

- A. The mean is greater than the median
- B. The mean is less than the median
- C. The mean equals the median
- D. The standard deviation is zero

Question 5

What is the IQR of the distribution in the boxplot?



- A. 50
- B. 18
- C. 11
- D. 21

Question 6

For a data set, $Q1 = 20$ and $Q3 = 32$. By the 1.5 IQR rule, which value is an outlier?

- A. 52
- B. 50
- C. 48
- D. 44

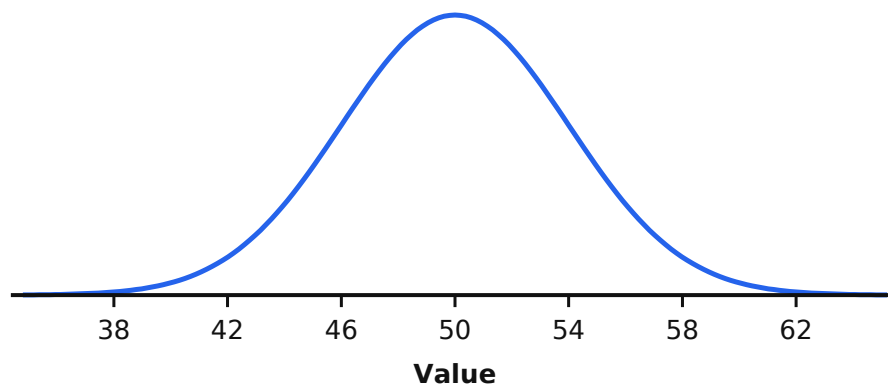
Question 7

A student scored 85 on a test with mean 70 and standard deviation 6. What is the z-score?

- A. 15
- B. 0.4
- C. 1.5
- D. 2.5

Question 8

Data are approximately normal with mean 50 and standard deviation 4. About what percent of values are between 46 and 58?



Approximately normal data, mean 50, standard deviation 4.

- A. 68%
- B. 95%
- C. 81.5%
- D. 47.5%

Question 9

Maya's score is at the 85th percentile. What does that mean?

- A. She answered 85% of the questions correctly
- B. About 85% of the scores are below hers
- C. About 85% of the scores are above hers
- D. Her score is 85

Question 10

Every value in a data set is increased by 5. Which statistic does NOT change?

- A. The mean
- B. The median
- C. The first quartile
- D. The standard deviation

Answer key

1. **C** – An area code is a label for a group, and arithmetic on it has no meaning. The other three are numbers where adding and averaging make sense.
2. **D** – Tacos have 10 of 40 students, and $10/40 = 25\%$. Reporting the count 10 as a percent is the usual mistake.
3. **C** – The long tail points toward the small values, so the distribution is skewed left. Skewed right is chosen by mistake when students look at where the tall bars are.
4. **A** – The long right tail pulls the mean toward large values while the median resists it, so the mean is greater.
5. **B** – $IQR = Q3 - Q1 = 52 - 34 = 18$. The value 50 is the range, $70 - 20$.
6. **A** – $IQR = 12$, so the upper fence is $32 + 18 = 50$. Only 52 is above the fence. A value equal to the fence, 50, is not an outlier.
7. **D** – $z = (85 - 70)/6 = 2.5$. The mistake is to stop at the difference 15 and not divide by the standard deviation.
8. **C** – 46 is 1 standard deviation below the mean and 58 is 2 above, so $34\% + 34\% + 13.5\% = 81.5\%$. The answer 68% ignores the extra stretch to 58.
9. **B** – A percentile is the percent of values below a given value. It is not the percent correct on the test.
10. **D** – Adding a constant shifts all measures of center and position, but the distances between values stay the same, so measures of spread like s and the IQR do not change.

How does this quiz work?

Read each question, choose one answer among A, B, C and D, then check it: a short explanation appears after every answer. Your score out of 10 is shown at the end, and you can restart the quiz as often as you like.

What should you review before the quiz?

Reread the key facts of the lesson and the worked example. If a question is hard, go back to the matching part of the lesson, then try the quiz again. Write your work on scrap paper: most mistakes come from skipping a step, not from the idea itself.

Remember:

- Describe every quantitative distribution with shape, center, spread and unusual features, in context.
- Use the median and IQR for skewed data or outliers, and the mean and standard deviation for symmetric data.
- A value is an outlier if it is below $Q1 - 1.5 IQR$ or above $Q3 + 1.5 IQR$, or if it is more than 2 standard deviations from the mean.

- A z-score is $(x - \text{mean}) / s$; the empirical rule gives 68%, 95% and 99.7% within 1, 2 and 3 standard deviations.

How to use this ap statistics one variable quiz

Retake this ap statistics one variable quiz until every answer is right, then move on to the worksheet and the test.

