

AP Statistics · Exploring One-Variable Data · Worksheet

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

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

This ap statistics one variable worksheet gives 22 problems on exploring one-variable data, ordered from easy to hard, with a separate answer key.

These 22 problems practice AP Statistics Unit 1 (2026-27): classifying variables, reading bar charts and histograms, five-number summaries, outlier rules, standard deviation, z-scores, percentiles and the normal model.

Early problems target single skills. The last six use realistic contexts and several steps, so write complete sentences in context.

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

AP Statistics One Variable Worksheet: problems 1-5

Problem 1: Classify variables

Classify each variable as categorical or quantitative.

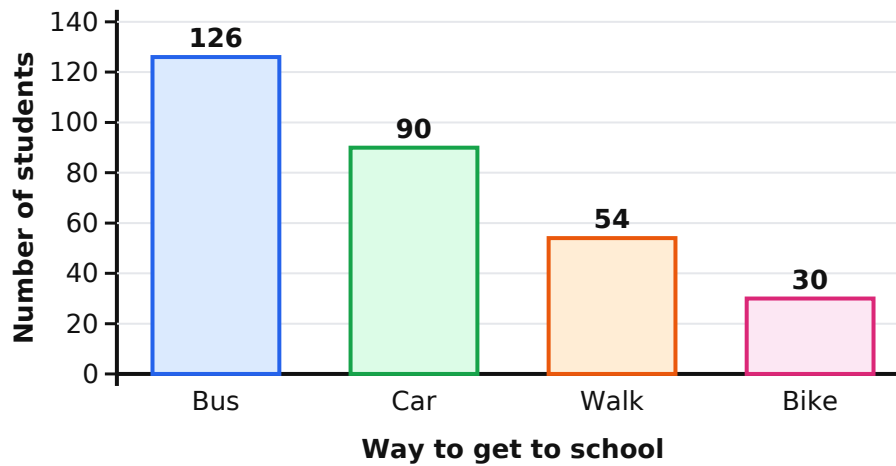
- The eye color of each student in a class.
- The minutes of homework Priya did last night.
- The area code of each phone number in a contact list.
- The number of pets in Diego's household.

Problem 2: Relative frequencies

A survey of 50 students asked which pet they own: dog 21, cat 15, fish 6, bird 3, and none 5. Find the relative frequency of each answer as a percent.

Problem 3: Reading a bar chart

The bar chart shows how 300 students get to school.



How 300 students get to school.

- What percent of the students ride the bus?
- What percent neither ride the bus nor take a car?

Problem 4: Mean and median

Jamal scored 12, 18, 9, 22, 15, 18 and 25 points in seven games. Find the mean and the median.

Problem 5: Effect of an outlier

A set of five delivery times (minutes) is 14, 16, 17, 19 and 20. A sixth delivery takes 80 minutes. Find the mean and median before and after the 80 is added, and say which statistic is resistant.

AP Statistics One Variable Worksheet: problems 6-10

Problem 6: Range and IQR

Find the range and the IQR of these 11 ordered values: 4, 7, 9, 10, 12, 13, 15, 18, 19, 22, 30.

Problem 7: Five-number summary

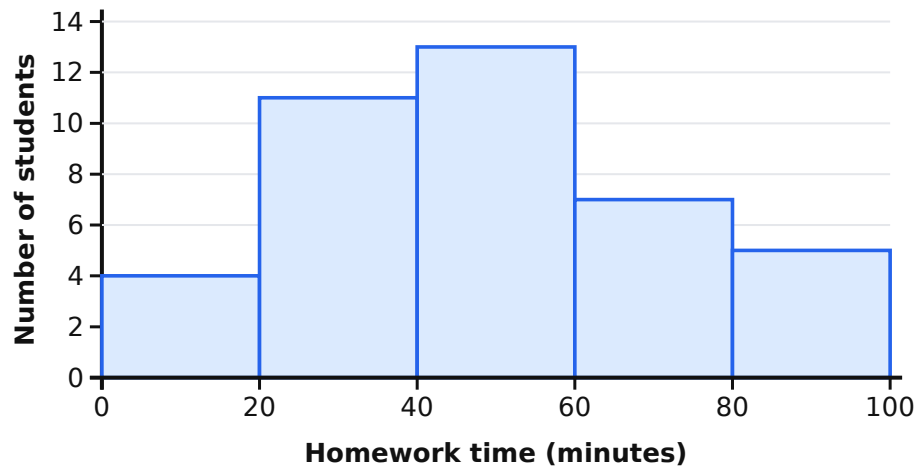
Mei counted the text messages she sent on 12 days: 8, 12, 15, 15, 18, 22, 25, 27, 31, 34, 40, 52. Find the five-number summary and decide whether any value is an outlier by the 1.5 IQR rule.

Problem 8: Sample standard deviation

Find the sample standard deviation s of 6, 9, 10, 13 and 17, to the nearest hundredth.

Problem 9: Shape and median from a histogram

The histogram shows nightly homework time for 40 students.

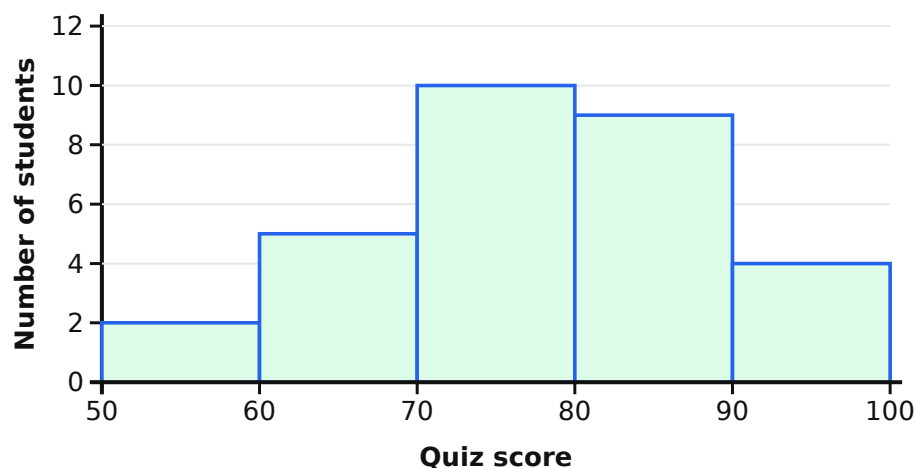


Nightly homework time for 40 students.

- Describe the shape.
- In which class does the median lie?
- Is the mean likely to be greater than, less than, or about equal to the median? Explain.

Problem 10: Counting from a histogram

The histogram shows the quiz scores of 30 students.



Quiz scores of 30 students (a score on a boundary goes in the higher class).

- How many students scored below 70?
- What percent of the students scored 80 or higher?
- Which class contains the median?

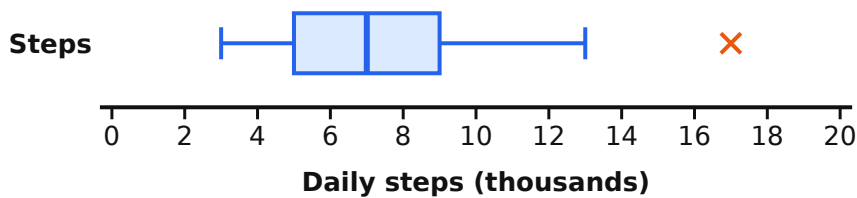
AP Statistics One Variable Worksheet: problems 11-15

Problem 11: Test for outliers with IQR

Ethan recorded the minutes he spent on 10 bus rides: 22, 24, 25, 27, 28, 29, 31, 33, 34, 62. Use the 1.5 IQR rule to decide whether 62 is an outlier.

Problem 12: Reading a boxplot

The boxplot shows daily steps, in thousands, recorded by Sofia.



Daily steps for one student over a school year; the x marks an outlier.

- State the median, Q1 and Q3.
- Find the IQR and check with the 1.5 IQR rule that 17 is an outlier.
- About what percent of the days had between 5 and 9 thousand steps?

Problem 13: Compute a z-score

Scores on a history exam have mean 72 and standard deviation 6.

- Find the z-score of a student who scored 84.
- A student has a z-score of -1.5 . What was the score?

Problem 14: Compare two z-scores

Jamal scored 78 on a math exam with mean 70 and standard deviation 5. Sofia scored 85 on a science exam with mean 75 and standard deviation 8. Who did better relative to the class? Justify with z-scores.

Problem 15: Percentiles

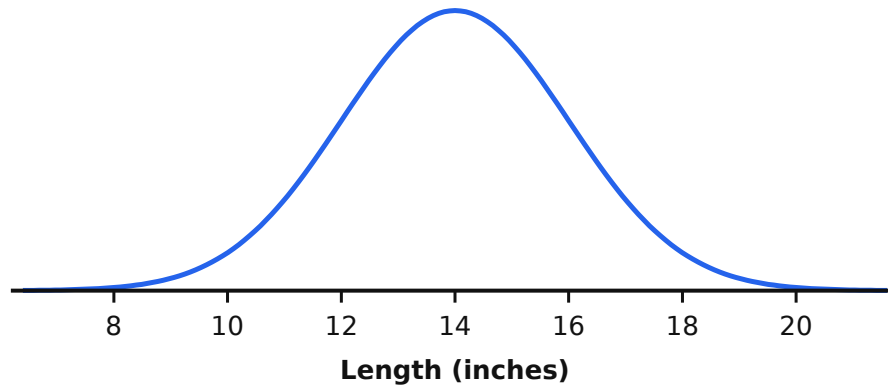
A class of 25 students took an exam, and Ethan scored higher than 21 of them. Another class has 40 students, and Maya is at the 60th percentile there.

- Find Ethan's percentile.
- How many students scored below Maya?

AP Statistics One Variable Worksheet: problems 16-20

Problem 16: Empirical rule percentages

The lengths of the fish in a lake are approximately normal with mean 14 inches and standard deviation 2 inches.



Lengths of fish in one lake (approximately normal).

- About what percent of the fish are between 12 and 18 inches long?
- About what percent are longer than 18 inches?

Problem 17: Normal probability above a value

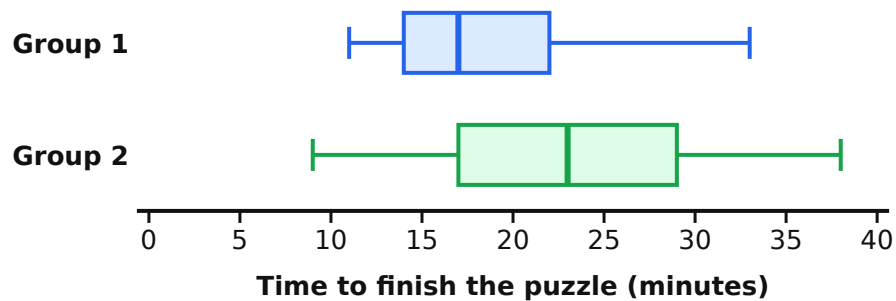
A pizza shop's delivery times are approximately normal with mean 12.0 minutes and standard deviation 2.5 minutes. Find the percent of deliveries that take more than 15 minutes.

Problem 18: Value at a percentile

State exam scores are approximately normal with mean 500 and standard deviation 100. Find the score at the 90th percentile, to the nearest whole number.

Problem 19: Compare two distributions

Fifteen students in each of two groups timed a jigsaw puzzle. The boxplots summarize the times.



Puzzle times for two groups of 15 students.

Compare the two distributions in context, addressing center, spread and shape.

Problem 20: Two outlier rules

A Little League team scored 3, 4, 4, 5, 5, 6, 6, 7, 7, 8, 9 and 20 runs in 12 games. Apply (a) the 1.5 IQR rule and (b) the rule using 2 standard deviations from the mean. Which values, if any, are outliers under each rule?

AP Statistics One Variable Worksheet: problems 21-22

Problem 21: Changing units

The daily high temperatures in a city one July had mean 20 °C, median 19 °C, standard deviation 4 °C and IQR 6 °C. Find each of the four statistics in degrees Fahrenheit using $F = 1.8C + 32$.

Problem 22: Salaries at a bakery

A bakery pays its nine employees (in dollars per year) 31,000; 33,500; 34,000; 35,000; 36,500; 38,000; 39,000; 41,000 and 180,000 (the owner).

- Find the mean and median salary.
- Use the 1.5 IQR rule to decide whether the owner's salary is an outlier.
- Which measure of center better describes a typical employee's pay? Explain.

How to use this ap statistics one variable worksheet

Print this ap statistics one variable worksheet as a PDF, solve every problem on paper, then compare with the answer key.

