

AP Statistics - Mean, Median, Standard Deviation and Outliers - Test

Common Core AP STAT 1.6, AP STAT 1.7, HSS-ID.A.2, HSS-ID.A.3 · maths-pdf.fr/en/

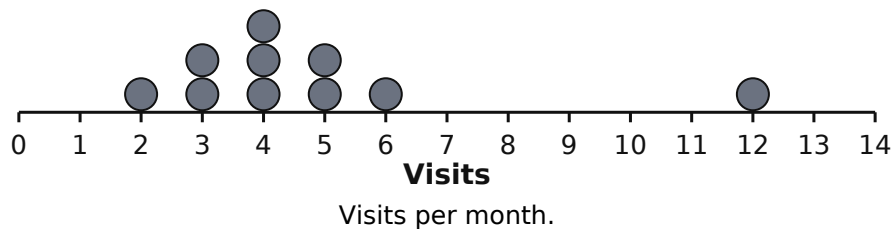
Name: _____ Class: _____ Date: ____/____/____

This 45-minute test covers measures of center and spread, resistance, the 1.5 IQR rule, and linear transformations. Show your work and state each conclusion in context.

About this test

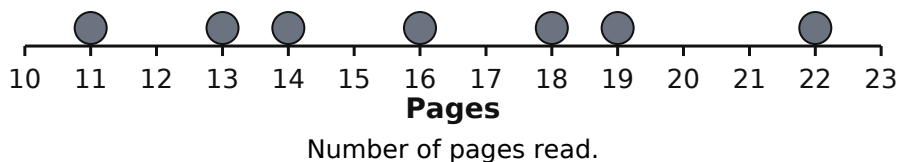
- Grade: AP Statistics
- Chapter: Mean, Median, Standard Deviation and Outliers
- Standards: AP STAT 1.6, AP STAT 1.7, HSS-ID.A.2, HSS-ID.A.3
- Time: 45 minutes
- Total: 20 points

Question 1 - Mean and median [3 pts]



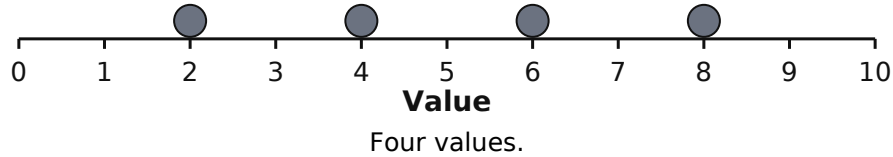
(a) Find the mean. (1 point) (b) Find the median. (1 point) (c) Which is larger and why? (1 point)

Question 2 - Five-number summary [2 pts]



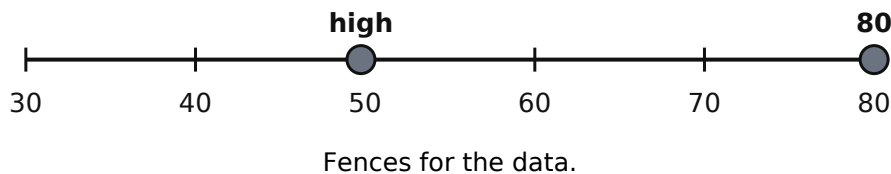
Find the five-number summary and IQR for 11, 13, 14, 16, 18, 19, 22.

Question 3 - Standard deviation [3 pts]



Find the standard deviation of 2, 4, 6, 8 to two decimal places. (3 points)

Question 4 - Outlier rule [3 pts]



Use the 1.5 IQR rule to decide whether 80 is an outlier in 31, 33, 34, 35, 36, 38, 39, 41, 80. (3 points)

Question 5 - Resistance [2 pts]

A data set has mean 52 and median 51. The largest value 70 is replaced by 700. Which of the mean and median changes? Explain.

Question 6 - Linear transformation [2 pts]

Heights in inches have mean 66 and standard deviation 3. Find the mean and standard deviation in centimeters (1 inch = 2.54 cm).

Question 7 - Interpret the standard deviation [2 pts]

The mean wait for a bus is 8 minutes with standard deviation 2.5 minutes. Interpret the standard deviation in context.

Question 8 - Choose the summary [3 pts]

House prices in a neighborhood are \$210,000, \$225,000, \$240,000, \$250,000, and \$1,900,000. (a) Find the mean and median. (2 *points*) (b) Which should a realtor report to describe a typical home and why? (1 *point*)