

Grade 6 · Mean, Median, Range, IQR and Mean Absolute Deviation · Worksheet

Common Core 6.SP.A.3, 6.SP.B.5c, 6.SP.B.5d · mathovore.fr

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

These 20 problems practice describing a data set with measures of center and variability from Common Core 6.SP.A.3, 6.SP.B.5c, and 6.SP.B.5d. Early problems find the mean, median, mode, and range; middle problems use quartiles, box plots, and the mean absolute deviation.

Problems 15 through 20 are word problems about scores, commute times, allowances, and swim times. Show each calculation, and explain your choice of measure in a full sentence.

Grade 6 Common Core: 6.SP.A.3 · 6.SP.B.5c · 6.SP.B.5d

Problem 1: Find the mean

Find the mean of the data 4, 7, 9, and 12.

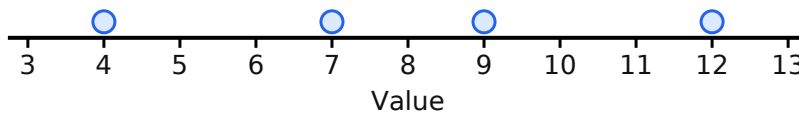


Figure for Problem 1.

Problem 2: Median, odd count

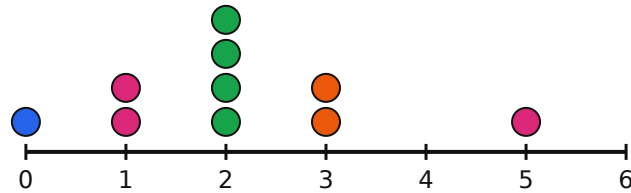
Find the median of 15, 9, 12, 20, and 11.

Problem 3: Median, even count

Find the median of 8, 3, 10, 5, 6, and 12.

Problem 4: Books Read Dot Plot

The dot plot shows the number of books that 10 students read last month. Each dot is one student. Find the mean, the median, the mode, and the range of the data.



Number of books read by 10 students.

Problem 5: Find the range

The heights of five plants are 23, 18, 31, 25, and 40 centimeters. Find the range.

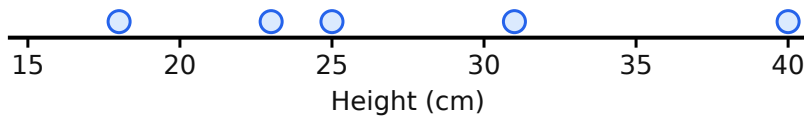


Figure for Problem 4.

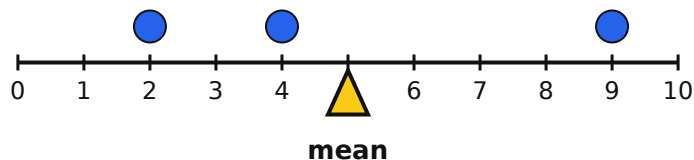
Problem 6: Daily High Temperatures

The high temperatures, in $^{\circ}\text{F}$, for one week were 68, 72, 75, 71, 69, 73, and 76. Find the mean, the median, and the range.

Problem 7: Mean as a Balance Point

Three values are plotted on the number line: 2, 4, and 9.

- Find the mean.
- Find how far each value is from the mean.
- Show that the total distance of the values below the mean equals the total distance of the value above it.



Values 2, 4, and 9.

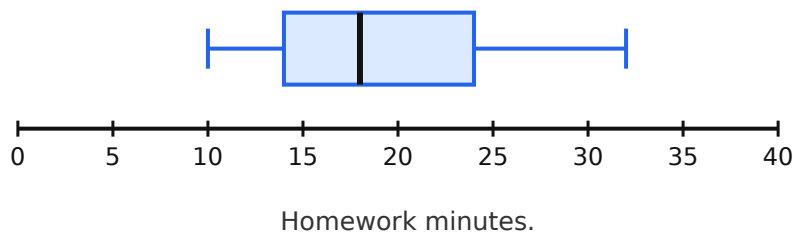
Problem 8: Missing value

The mean of four numbers is 12. Three of the numbers are 10, 15, and 9. Find the fourth number.

Problem 9: Reading a Box Plot

The box plot shows the number of minutes that students spend on homework.

- Name the five-number summary.
- Find the range.
- Find the interquartile range.



Problem 10: Quartiles and IQR

Find Q_1 , the median, Q_3 , and the IQR of 12, 3, 9, 18, 6, 15, 4, 10, 7, and 13.

Problem 11: Five-Number Summary

Find the minimum, Q_1 , the median, Q_3 , the maximum, and the interquartile range of the data 11, 14, 15, 17, 20, 22, 24, 27, 30.

Problem 12: Find the MAD

Find the mean absolute deviation of 4, 6, 6, 8, and 11.

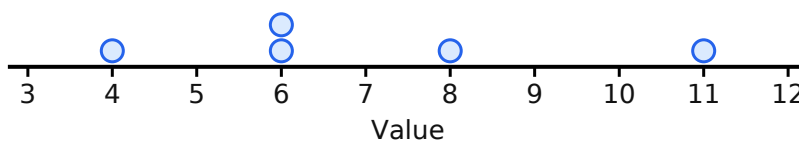


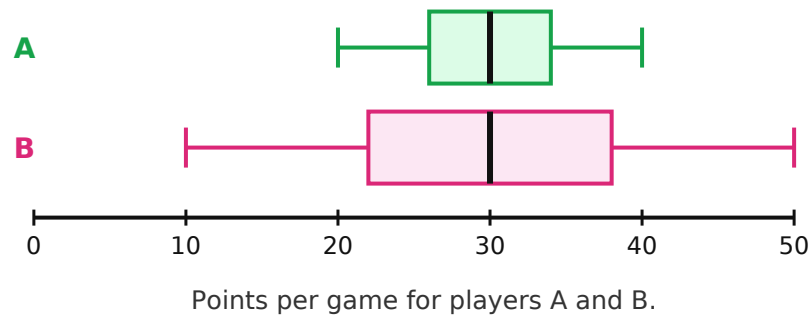
Figure for Problem 6.

Problem 13: MAD Step by Step

Find the mean absolute deviation of 2, 6, 7, 9, and 11. Round only if needed.

Problem 14: Comparing Two Box Plots

The box plots show the points scored per game by two players, A and B. Compare the centers and the spreads of the two data sets, and tell which player is more consistent.



Problem 15: Effect of an outlier

Ethan's quiz scores are 88, 92, 90, 86, 94, and 30. (a) Find the mean. (b) Find the median. (c) Which measure better describes his typical score? Explain.

Problem 16: Bowling Goal

Liam bowled scores of 112, 124, 118, 130, and 121 in his first five games. He wants a mean score of 125 after the sixth game. Find the score he needs in game 6.

Problem 17: Basketball consistency

Maya scored 14, 16, 16, and 18 points in four games. Diego scored 8, 12, 20, and 24 points. (a) Find each mean. (b) Find each MAD. (c) Who is more consistent?

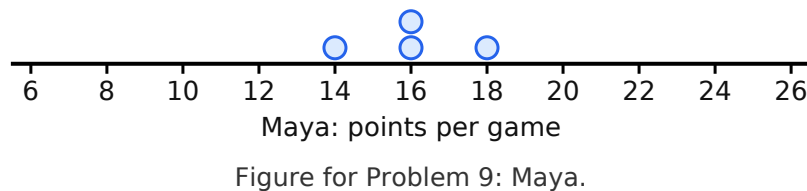


Figure for Problem 9: Maya.

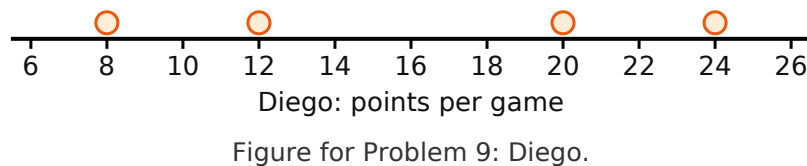


Figure for Problem 9: Diego.

Problem 18: Commute Times

Aisha's bus ride to school took 22, 25, 24, 23, 26, 24, 25, and 23 minutes on eight days. On the

ninth day a crash caused a 60-minute ride.

- Find the mean of the first eight days.
- Find the mean and the median of all nine days.
- Decide which measure better describes a typical ride and explain.

Problem 19: Allowance survey

Seven students' weekly allowances are \$8, \$10, \$10, \$12, \$12, \$14, and \$46. (a) Find the mean. (b) Find the median. (c) Which is a better measure of the typical allowance? (d) Find the mean without the \$46.

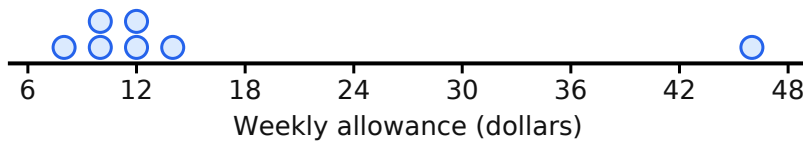


Figure for Problem 10.

Problem 20: Swim Team Consistency

Noah and Mei each swam six 50-meter races. Noah's times, in seconds, were 31, 33, 32, 34, 35, and 33. Mei's times were 30, 36, 30, 36, 33, and 33. Find each swimmer's mean and mean absolute deviation, then decide who is more consistent.