

Measuring Center and Variability in Data

Grade 6 math · Test · Standards: 6.SP.A.3, 6.SP.B.5c, 6.SP.B.5d

Name: _____ Date: _____ Class: _____

This test checks mean, median, range, quartiles, IQR and mean absolute deviation. Order the data before finding a median or quartiles, show each calculation, and include units. The test is worth 20 points and should take 45 minutes.

Standards: 6.SP.A.3, 6.SP.B.5c, 6.SP.B.5d · **Level:** Grade 6

Time: 45 minutes · 8 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Mean and median (2 points)

Find the mean and the median of 14, 9, 21, 12 and 24.

(1 point each)

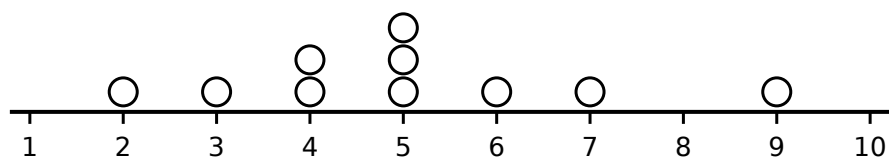
Question 2 Median and range (2 points)

Find the median and the range of 31, 28, 35, 40, 26 and 36.

(1 point each)

Question 3 Mean and MAD from a dot plot (3 points)

The dot plot shows the songs 10 students downloaded.



Songs downloaded

Number of songs 10 students downloaded.

- Find the mean. *(1 point)*
- Find the mean absolute deviation. *(2 points)*

Question 4 Quartiles (3 points)

Consider the values 12, 15, 17, 18, 22, 25, 27 and 30.

- Find the median. (1 point)
- Find Q1 and Q3. (1 point)
- Find the IQR. (1 point)

Question 5 Missing score (2 points)

The mean of four quiz scores is 84. Three of the scores are 80, 92 and 78. Find the fourth score.

Question 6 Adding an outlier (3 points)

The scores 70, 72, 75, 78 and 80 are joined by a new score of 15.

- Find the mean and the median before the new score. (1 point)
- Find the mean and the median after the new score. (1 point)
- Which measure changed more? (1 point)

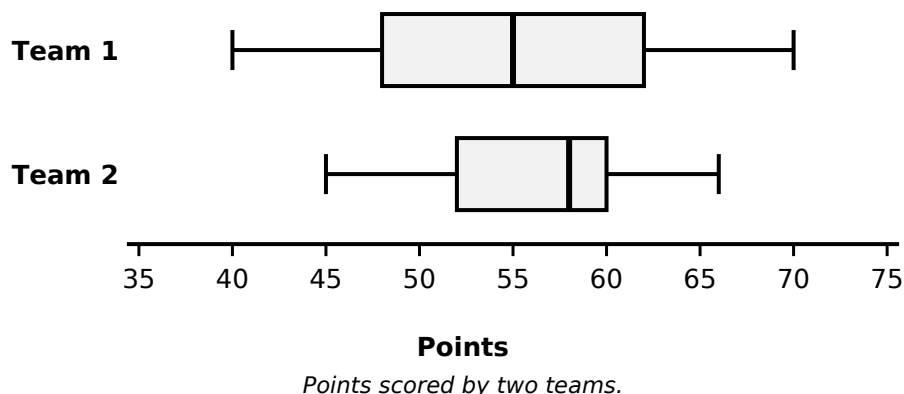
Question 7 Choosing a measure (3 points)

Six employees at a shop earn \$30,000, \$32,000, \$33,000, \$35,000, \$36,000 and \$134,000.

- Find the mean salary. (1 point)
- Find the median salary. (1 point)
- Which measure better describes a typical salary? Explain. (1 point)

Question 8 Comparing two teams (2 points)

The box plots show points scored by two teams.



- a. Which team has the greater median? (1 point)
- b. Which team has the greater IQR? (1 point)