

Grade 6 - Mean, Median, Spread and Box Plots - Test Answer Key

Common Core 6.SP.A.3, 6.SP.B.5c, 6.SP.B.5d · maths-pdf.fr/en/

Use this key to score the test out of 20 points. Each solution is fully worked, and the scoring line explains how to award each point and partial credit.

Grade 6 · Common Core State Standards: **6.SP.A.3, 6.SP.B.5c, 6.SP.B.5d**

Question 1 - Mean and median [2 pts]

Mean: $35 \div 5 = 7$. Ordered 5, 6, 7, 8, 9: median 7.

Scoring: 1 point for the mean; 1 point for the median.

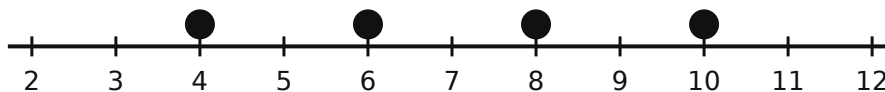
Question 2 - Even-sized set [2 pts]

Ordered: 3, 4, 6, 6, 7, 10; median $\frac{6+6}{2} = 6$. Mode 6.

Scoring: 1 point for each.

Question 3 - MAD [2 pts]

Mean 7. Distances 3, 1, 1, 3. MAD $\frac{8}{4} = 2$.

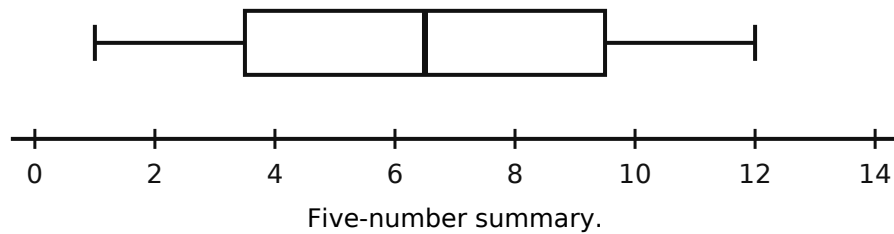


Distances from 7: 3, 1, 1, 3.

Scoring: 1 point for the mean; 1 point for the MAD.

Question 4 - Box plot [2 pts]

Min 1, Q1 3.5, median 6.5, Q3 9.5, max 12.



Scoring: 1 point for the summary; 1 point for the box plot.

Question 5 - Read a box plot [2 pts]

Median 35; range $60 - 20 = 40$; IQR $50 - 30 = 20$.

Scoring: 1 point for the median; 1 point for the range and IQR.

Question 6 - Outlier [2 pts]

Mean $118 \div 6 \approx 19.7$; median $\frac{12+12}{2} = 12$.

The median is better.

Scoring: 1 point for the values; 1 point for the choice and reason.

Question 7 - Missing score [2 pts]

Total $6 \cdot 82 = 492$. Five scores total $78 + 85 + 90 + 76 + 80 = 409$.

$492 - 409 = 83$.

Scoring: 1 point for the total; 1 point for 83.

Question 8 - Compare [3 pts]

Boys: median 15, IQR $18 - 12 = 6$. Girls: median 16, IQR $17 - 13 = 4$.

Girls have the greater median. Boys have the greater IQR.

Scoring: 1 point for the medians and IQRs; 1 point for each conclusion.

Question 9 - Describe the data [3 pts]

Mean: $118 \div 7 \approx 16.9$. Median: 13.

First six: mean $77 \div 6 \approx 12.8$.

The outlier 41 pulls the mean up, so report the median 13.

Scoring: 1 point for the mean and median; 1 point for the discussion of the outlier; 1 point for the choice.

Total
20 points