

Statistics

Data & Measurement · Grade 6

Score: _____ / 12

◆ Medium · 12 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

- The mean of 6 numbers is 14. Five of them are: 10, 16, 18, 12, 15. Find the sixth number.

Answer: _____

- Find the median of: 3.5, 2.1, 4.8, 1.7, 5.0, 3.2

Answer: _____

3. Find mean, median, and mode for: 4, 7, 4, 9, 4, 11, 7

Answer: _____

4. A student scored 72, 85, 90, and 68. What score is needed on a 5th test for a mean of 80?

Answer: _____

5. Data: 5, 8, 12, 6, 9, 11, 7, 10. Find the IQR.

Answer: _____

6. Which measure of center is most affected by an outlier?

Answer: _____

7. Find the weighted mean: scores 80 (weight 2), 90 (weight 3), 70 (weight 1).

Answer: _____

8. Two classes of 25 and 30 students have mean scores of 78 and 82. What is the combined mean?

Answer: _____

9. The median of $\{2, 5, 8, x, 14, 20\}$ is 9. Find x .

Answer: _____

10. The mean is 50 and the median is 62. What does this tell you about the distribution?

Answer: _____

11. Create a data set of 5 numbers where mean = median = 10 and range = 8.

Answer: _____

- 12.** Seven consecutive integers have a mean of 15. What are the integers?

Answer: _____

Answer Key

Statistics — Medium

1. **13**

Sum = $14 \times 6 = 84$. Known: $10 + 16 + 18 + 12 + 15 = 71$. Sixth: $84 - 71 = 13$.

2. **3.35**

Order: 1.7, 2.1, 3.2, 3.5, 4.8, 5.0. Median = $(3.2 + 3.5)/2 = 3.35$.

3. **Mean ≈ 6.57 ; Median = 7; Mode = 4**

Sum = 46, $n = 7$. Mean = $46/7 \approx 6.57$. Ordered: 4, 4, 4, 7, 7, 9, 11. Median = 7. Mode = 4.

4. **85**

Target sum = $80 \times 5 = 400$. Current = 315. Need $400 - 315 = 85$.

5. **IQR = 4**

Order: 5, 6, 7, 8, 9, 10, 11, 12. $Q1 = 6.5$, $Q3 = 10.5$. IQR = 4.

6. **Mean**

An extreme value pulls the mean significantly. Median and mode are more resistant.

7. **83.33**

Weighted sum: $160 + 270 + 70 = 500$. Total weight = 6. Mean = $500 \div 6 \approx 83.33$.

8. **80.18**

Total: $25 \times 78 + 30 \times 82 = 1,950 + 2,460 = 4,410$. Students = 55. Mean = $4,410 \div 55 \approx 80.18$.

9. **$x = 10$**

Median of 6 values = $(3\text{rd} + 4\text{th})/2$. $3\text{rd} = 8$, $4\text{th} = x$. $(8 + x)/2 = 9 \rightarrow x = 10$.

10. **Skewed left — extreme low values are pulling the mean down.**

When mean < median, low outliers pull the mean below the center.

11. Example: 6, 8, 10, 12, 14

Mean=(6+8+10+12+14)/5=10. Median=10. Range=14-6=8. ✓

12. 12, 13, 14, 15, 16, 17, 18

For consecutive integers, mean = middle value = 15. Set: 12-18.
