

Mean and Median

Name: _____ Date: _____ Score: _____ / 24

Q Quick Review

The **mean** is the “balancing point” of the data. To find it, **add all the values** and **divide by how many there are**. The **median** is the **middle value** once the data is in order. If there is an odd number of values, the median is the single middle one. If there is an even number, the median is the **average of the two middle values**. Both the mean and the median are **measures of center** — they describe a typical value of the data set.

◇ **Example:** Find the mean and median of 4, 9, 6, 9, 2.

⇒ For the mean, add everything: $4 + 9 + 6 + 9 + 2 = 30$. There are 5 values, so divide: $30 \div 5 = 6$. For the median, first put the numbers in order: 2, 4, 6, 9, 9. Since there are 5 values, the middle one is the 3rd number, which is 6. So the mean is 6 and the median is 6 — they happen to match here, but they often differ.

Answer: mean = 6, median = 6

PRACTICE

Find the mean or median of each data set as asked.

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|-------------------------------|-------|--------------------------------------|-------|
| 1. Mean of 4, 8, 6, 2 | _____ | 11. Median of 3, 7, 11 | _____ |
| 2. Mean of 10, 12, 8, 14, 6 | _____ | 12. Median of 2, 4, 6, 8 | _____ |
| 3. Mean of 3, 5, 9, 7 | _____ | 13. Median of 10, 5, 8, 1, 16 | _____ |
| 4. Mean of 20, 30, 40, 50 | _____ | 14. Median of 12, 16, 11, 17 | _____ |
| 5. Mean of 15, 18, 21, 24, 27 | _____ | 15. Median of 7, 3, 9, 5, 1, 11 | _____ |
| 6. Mean of 9, 1, 5, 7, 8 | _____ | 16. Median of 22, 14, 16, 28, 20 | _____ |
| 7. Mean of 6, 6, 12, 12 | _____ | 17. Median of 1, 2, 3, 4, 5, 6, 7 | _____ |
| 8. Mean of 14, 10, 18, 2, 6 | _____ | 18. Median of 60, 10, 50, 40, 20, 30 | _____ |
| 9. Mean of 5, 10, 15, 20, 25 | _____ | 19. Mean of 5, 5, 8, 10, 12 | _____ |
| 10. Mean of 30, 30, 30, 30 | _____ | 20. Median of 2, 4, 4, 6, 9 | _____ |

◆ Word Problems

21. Liam’s quiz scores were 7, 8, 9, 8, 8 out of 10. Find his mean score and his median score. _____
22. A store sold 3, 8, 5, 8, 6 jackets over five days. Find the median number sold, then the mean. _____
23. Six runners had times in seconds of 40, 42, 45, 41, 44, 60. Find the mean and the median. Which one better describes a typical time? _____
24. On four tests Ava scored 82, 90, 76, 92. What score must she earn on a fifth test so that her mean is exactly 86? _____



Answer Keys

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|-------------------------------------|---|
| 1. <input type="text" value="5"/> | 13. <input type="text" value="8"/> |
| 2. <input type="text" value="10"/> | 14. <input type="text" value="14"/> |
| 3. <input type="text" value="6"/> | 15. <input type="text" value="6"/> |
| 4. <input type="text" value="35"/> | 16. <input type="text" value="20"/> |
| 5. <input type="text" value="21"/> | 17. <input type="text" value="4"/> |
| 6. <input type="text" value="6"/> | 18. <input type="text" value="35"/> |
| 7. <input type="text" value="9"/> | 19. <input type="text" value="8"/> |
| 8. <input type="text" value="10"/> | 20. <input type="text" value="4"/> |
| 9. <input type="text" value="15"/> | 21. <input type="text" value="mean = 8, median = 8"/> |
| 10. <input type="text" value="30"/> | 22. <input type="text" value="median = 6, mean = 6"/> |
| 11. <input type="text" value="7"/> | 23. <input type="text" value="mean = 45.4̄6, median = 43; median"/> |
| 12. <input type="text" value="5"/> | 24. <input type="text" value="90"/> |

Step-by-Step Explanations

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| <p>1. Add to get 20, then $20 \div 4 = 5$.</p> <p>2. The sum is 50 and there are 5 values: $50 \div 5 = 10$.</p> <p>3. Add to get 24, then $24 \div 4 = 6$.</p> <p>4. The total is 140, and $140 \div 4 = 35$.</p> <p>5. The sum is 105, and $105 \div 5 = 21$.</p> <p>6. Add to get 30, then $30 \div 5 = 6$.</p> <p>7. The total is 36, and $36 \div 4 = 9$.</p> <p>8. The sum is 50, and $50 \div 5 = 10$.</p> <p>9. Add to get 75, then $75 \div 5 = 15$.</p> <p>10. All values are 30, so the mean is also 30.</p> <p>11. With three ordered values, the middle one is 7.</p> <p>12. Average the two middle values: $(4 + 6) \div 2 = 5$.</p> <p>13. Order them: 1, 5, 8, 10, 16. The middle value is 8.</p> <p>14. Order them: 11, 12, 16, 17. The middle two average to 14.</p> | <p>15. Order them: 1, 3, 5, 7, 9, 11. Average the middle two, 5 and 7, to get 6.</p> <p>16. Order them: 14, 16, 20, 22, 28. The middle value is 20.</p> <p>17. With seven ordered values, the middle one is the 4th: 4.</p> <p>18. Order them: 10, 20, 30, 40, 50, 60. Average 30 and 40 to get 35.</p> <p>19. The sum is 40, and $40 \div 5 = 8$.</p> <p>20. The values are already in order, and the middle of five is 4.</p> <p>21. The five scores add to 40, so the mean is $40 \div 5 = 8$. In order they are 7, 8, 8, 8, 9, so the middle value — the median — is also 8.</p> <p>22. Ordered, the data is 3, 5, 6, 8, 8, so the median is the middle value 6. The sum is 30, so the mean is $30 \div 5 = 6$.</p> <p>23. The times add to 272, so the mean is $272 \div 6 \approx 45.5$. Ordered, the median is $(42 + 44) \div 2 = 43$. The 60-second time pulls the mean up, so the median better describes a typical run.</p> <p>24. To have a mean of 86 over 5 tests, her total must be $5 \times 86 = 430$. Her first four tests add to 340, so she needs $430 - 340 = 90$ on the fifth test.</p> |
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