

Mean, Median, Mode, and Range

Name: _____ Date: _____ Score: _____ / 18

Quick Review and Helpful Hints

For a data set: the *mean* is the sum divided by how many numbers there are; the *median* is the middle value once the data is ordered (average the two middle values if there is an even count); the *mode* is the value that appears most often; the *range* is the largest value minus the smallest.

▶ **Example:** Find the mean of 4, 8, 6, 4, 3. **Work:** Add the values:
 $4 + 8 + 6 + 4 + 3 = 25$. Then divide by how many there are, which is 5:
 $\frac{25}{5}$.

★ **Answer:** 5



The data 3, 4, 4, 6, 8 as a dot plot.

Practice Problems

Find the requested measure for each data set.

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|--|--|
| <p>1. Mean of 2, 4, 6 _____</p> <p>2. Mean of 5, 5, 8, 10, 2 _____</p> <p>3. Median of 3, 7, 9 _____</p> <p>4. Median of 2, 4, 6, 8 _____</p> <p>5. Mode of 3, 3, 5, 7 _____</p> <p>6. Mode of 1, 2, 2, 2, 5 _____</p> <p>7. Range of 4, 9, 15 _____</p> | <p>8. Range of 20, 5, 12 _____</p> <p>9. Mean of 10, 20, 30, 40 _____</p> <p>10. Median of 8, 3, 5, 9, 1 _____</p> <p>11. Mode of 6, 7, 7, 8, 8, 8 _____</p> <p>12. Range of 2, 2, 2 _____</p> <p>13. Mean of 7, 9, 11, 13 _____</p> <p>14. Median of 12, 4, 8, 16 _____</p> |
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Word Problems

15. Test scores are 80, 90, 85, 95, 100. What is the mean score? _____
16. In the data 3, 5, 7, 7, 9, what is the mode? _____
17. Daily highs were 60, 72, 68, 75, 65. What is the range? _____
18. Ages at a table are 10, 12, 14, 16, 18. What is the median age? _____



Answer Keys

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|-----------------------------------|------------------------------------|-------------------------------------|
| 1. <input type="text" value="4"/> | 7. <input type="text" value="11"/> | 13. <input type="text" value="10"/> |
| 2. <input type="text" value="6"/> | 8. <input type="text" value="15"/> | 14. <input type="text" value="10"/> |
| 3. <input type="text" value="7"/> | 9. <input type="text" value="25"/> | 15. <input type="text" value="90"/> |
| 4. <input type="text" value="5"/> | 10. <input type="text" value="5"/> | 16. <input type="text" value="7"/> |
| 5. <input type="text" value="3"/> | 11. <input type="text" value="8"/> | 17. <input type="text" value="15"/> |
| 6. <input type="text" value="2"/> | 12. <input type="text" value="0"/> | 18. <input type="text" value="14"/> |

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The mean is the sum divided by the count. Add: $2 + 4 + 6 = 12$, then divide by 3: $12 \div 3 = 4$. So the final answer is 4.
2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Add all five: $5 + 5 + 8 + 10 + 2 = 30$, then divide by 5: $30 \div 5 = 6$. So the final answer is 6.
3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The data is already in order, so the middle value is 7. So the final answer is 7.
4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is With an even count, average the two middle values: $\frac{4+6}{2} = 5$. So the final answer is 5.
5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The mode is the most frequent value – 3 appears twice. So the final answer is 3.
6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 2 appears three times, more than any other, so the mode is 2. So the final answer is 2.
7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Range is the largest minus the smallest: $15 - 4 = 11$. So the final answer is 11.
8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Largest minus smallest: $20 - 5 = 15$. So the final answer is 15.
9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Add: $10 + 20 + 30 + 40 = 100$, then divide by 4: $100 \div 4 = 25$. So the final answer is 25.
10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Put them in order: 1, 3, 5, 8, 9. The middle value is 5. So the final answer is 5.
11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is 8 appears three times, the most, so the mode is 8. So the final answer is 8.
12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Largest minus smallest: $2 - 2 = 0$. So the final answer is 0.
13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Add: $7 + 9 + 11 + 13 = 40$, then divide by 4: $40 \div 4 = 10$. So the final answer is 10.
14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Put them in order: 4, 8, 12, 16. Average the two middle: $\frac{8+12}{2} = 10$. So the final answer is 10.
15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The mean is the total over the count: $80 + 90 + 85 + 95 + 100 = 450$, then $450 \div 5 = 90$. So the final answer is 90.
16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The most frequent value is 7 (it appears twice). So the final answer is 7.
17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Largest minus smallest: $75 - 60 = 15$. So the final answer is 15.
18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The values 10, 12, 14, 16, 18 are already ordered, so the middle is 14. So the final answer is 14.



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