Year 7 mean, median and mode worksheet

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Name: _____ Date: _____

Question 1

The ages of players in a basketball squad are listed below.

14, 15, 13, 16, 14, 15, 15, 14, 13, 16, 15, 14

A stem-and-leaf plot is drawn with stems 13 and 14 and 15 and 16 (using tens and units). What is the median age of the squad?

Answer: _____

Question 2

Find the mean of the following data set: 8, 3, 6, 5, 8.

Answer: _____

Question 3

Find the median, mode and range of this data set: 4, 7, 2, 7, 9, 1, 4, 7, 3.

Answer: _____

Question 4

Two students each recorded how many pages they read per day for 6 days. Anika's results were: 12, 20, 15, 18, 10, 13. Ben's results were: 8, 25, 14, 22, 9, 16. Calculate the mean and range for each student, and use these to compare their reading habits.

Answer: _____

Question 5

The ages (in years) of eight players on a basketball team are: 14, 15, 13, 16, 15, 14, 15, 12. What is the median age?

Answer: _____

Question 6

Find the median and mode of this data set: 13, 5, 9, 5, 17, 11, 9, 5.

Answer: _____

Question 7

Find the range of this data set.

12, 5, 19, 8, 15

Answer: _____

Question 8

Find the mode of this data set.

3, 5, 5, 6, 8, 5, 9, 6

Answer: _____

Question 9

Find the median of this data set.

11, 4, 9, 15, 7

Answer: _____

Question 10

Find the mean of this data set.

6, 9, 10, 15

Answer: _____

Year 7 mean, median and mode: answers and worked solutions

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Question 1

Key idea: The median is the middle value when data is ordered. For an even number of values, average the two middle ones.

1. Write all 12 ages in order: 13, 13, 14, 14, 14, 14, 15, 15, 15, 15, 16, 16 2. Count the values: there are 12, which is even, so the median lies between the 6th and 7th values. 3. The 6th value is 14 and the 7th value is 15. 4. Median = (14 + 15)/(2) = 29/2 = 14.5

Answer: 14.5 years

Question 2

Key idea: The mean is the sum of all values divided by the number of values.

1. Count the values: there are 5 values. 2. Add all values: 8 + 3 + 6 + 5 + 8 = 30 3. Divide the sum by the count: Mean = 30/5 = 6

Answer: The mean is 6.

Question 3

Key idea: Sort the data first, then apply each definition.

1. Sort the values in ascending order: 1, 2, 3, 4, 4, 7, 7, 7, 9 2. **Median:** There are 9 values (odd count), so the median is the 5th value: Median = 4. 3. **Mode:** The value that appears most often is 7 (appears 3 times): Mode = 7. 4. **Range:** Range = 9 - 1 = 8

Answer: Median = 4, Mode = 7, Range = 8.

Question 4

Key idea: The mean compares typical values; the range compares spread.

1. **Anika's mean:** (12 + 20 + 15 + 18 + 10 + 13)/(6) = 88/6 ≈ 14.7 pages 2. **Ben's mean:** (8 + 25 + 14 + 22 + 9 + 16)/(6) = 94/6 ≈ 15.7 pages 3. **Anika's range:** 20 - 10 = 10 4. **Ben's range:** 25 - 8 = 17 5. Ben reads slightly more pages per day on average (about 15.7 compared to Anika's 14.7), but Anika is more consistent because her range (10) is much smaller than Ben's (17).

Answer: Anika: mean ≈ 14.7, range = 10. Ben: mean ≈ 15.7, range = 17. Ben reads more on average but is less consistent.

Question 5

Key idea: For an even number of values, the median is the mean of the two middle values once the data is ordered.

1. Order the ages from smallest to largest: 12, 13, 14, 14, 15, 15, 15, 16. 2. There are 8 values (an even count), so the median lies between the 4th and 5th values. 3. The 4th value is 14 and the 5th value is 15. 4. Median = (14 + 15)/(2) = 29/2 = 14.5.

Answer: 14.5 years

Question 6

Key idea: Sort the data first, then find the middle value(s) for the median and the most frequent value for the mode.

1. Sort the values in ascending order: 5, 5, 5, 9, 9, 11, 13, 17 2. **Median:** There are 8 values (even count), so the median is the average of the 4th and 5th values: Median = (9 + 9)/(2) = 9 3. **Mode:** The value that appears most often is 5 (appears 3 times, more than any other value): Mode = 5.

Answer: Median = 9, Mode = 5.

Question 7

Answer: 14 (19 - 5)

Question 8

Answer: 5

Question 9

Answer: 9 (ordered: 4, 7, 9, 11, 15)

Question 10

Answer: 10 (40 ÷ 4)