

Lesson 1-2

Example 1

Find the mean, median and mode.

5	8	14	41	66	19	8
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Solution

Mean: $(5 + 8 + 14 + 41 + 66 + 19 + 8) \div 7 = 23$ Divide by 7 since there are 7 items in the set.

Median: 5 8 8 14 19 41 66 Write the data in numerical order from least to greatest.

Mode: The number 8 appears twice.

The mean is 24. The median is 14. The mode is 8.

Example 2

EDUCATION Edgar has earned the following quiz scores in his science class this quarter.

22 28 4 20 0 26 28 22 27 24

Use a calculator for parts a–b.

- a. Find the mean.
- b. Find the median.
- c. Find the mode.
- d. Find the range.
- e. Which measure of central tendency is the best indicator of the typical number of points earned per quiz?

Solution

- a. The sum of the points is $22 + 28 + 4 + 20 + 0 + 26 + 28 + 22 + 27 + 24 = 201$. Divide this by the total number of quizzes, 10, to find the mean. $201 \div 10 = 20.1$. The mean number of points earned per quiz is 20.1.
- b. Since there are ten items in the data set, the median is the average of the two middle values. Order the quiz scores from least to greatest: 0, 4, 20, 22, 22, 24, 26, 27, 28, 28. The median quiz score is $(22 + 24) \div 2 = 23$.
- c. The data has two modes, 22 and 28, since both occur twice.
- d. Subtract the lowest score, 0, from the highest score 28. The range is $28 - 0 = 28$ points.
- e. The best indicator of points earned per quiz is the median score since it is not affected by the extreme low values of 0 and 4.

Example 3

HEALTH Lisa has run 11 kilometers, 14 kilometers, 9 kilometers, 10 kilometers, and 15 kilometers this week. Her goal is to run an average of at least 12 kilometers each day over a 6-day period. What is the minimum number of kilometers she can run on the sixth day in order to meet the goal?

Solution

Find the total number of kilometers that have been run. $11 + 14 + 9 + 10 + 15 = 59$

If the desired average is 12 kilometers per day over 6 days, find the total number of kilometers needed to meet the goal by multiplying 12 and 6. $12 \times 6 = 72$

Find the number of kilometers she must run on the sixth day by subtracting the kilometers already run from the total number of kilometers needed to meet the goal. $72 - 59 = 13$

Lisa must run at least 13 kilometers on the sixth day in order to meet her goal.