

Name

10.2 Use Measures of Central Tendency and Dispersion

Alg I

I can compare measures of central tendency and dispersion.

Mean: Average of a set of data: \bar{x}
- To find, add all the numbers and divide by how many numbers there are

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Median: The middle number when the values are written in numerical order

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Mode: The value that occurs the most

Example 1:

1) The median still represents the data the best since it is closest to the remaining values.

Measure of Dispersion: Describes the spread of the data

Range: The difference of the greatest and least value in the data

Mean Absolute Deviation: $\frac{|x_1 - \bar{x}| + |x_2 - \bar{x}| + \dots + |x_n - \bar{x}|}{n}$

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Example 2:

a) A: $11.32 - 10.62 = 0.7$ 400: $53.68 - 46.89 = 6.79$

The range of the 400 m dash is greater

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b) A: 0.164

400: $\bar{X} = 46.89 + 47.65 + 48.15 + 49.05 + 49.19 + 49.50 +$
 $49.68 + 51.09 + 53.31 + 53.68 = 498.19$

$$\bar{X} = \frac{498.19}{10} = 49.819$$

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Test

* Complete
Skills

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$$\begin{aligned} \text{MAD} &= |46.89 - 49.819| + |47.65 - 49.819| + |48.15 - 49.819| + \\ &|49.05 - 49.819| + |49.19 - 49.819| + |49.50 - 49.819| + \\ &|49.68 - 49.819| + |51.09 - 49.819| + |53.31 - 49.819| + \\ &|53.68 - 49.819| = 2.929 + 2.169 + 1.669 + 0.769 + \\ &0.629 + 0.319 + 0.139 + 1.271 + 3.491 + 3.861 = \\ &\frac{17.246}{10} = 1.7246 \end{aligned}$$

The MAD for the 400 m dash is greater