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VIDEO GUIDE · UNIT 0 · TOPIC 0.3

Variability

Watch the lesson

Name _____ Class _____ Date _____

NOTES: FILL IN THE BLANKS WHILE YOU WATCH

1. Two data sets can have the same mean but differ in _____ , or how spread out the scores are.
2. The _____ is the difference between the highest and lowest scores, so it uses only two scores.
3. The _____ is roughly the average distance of scores from the mean; unlike the range, it takes every score into account. A larger _____ means scores are more spread out (on a graph, a wider, flatter distribution).

CHECK YOUR UNDERSTANDING

1. A researcher reports that reaction times in her study have a mean of 250 ms and a standard deviation of 20 ms. What does the standard deviation tell you?

(A) The fastest and slowest reaction times differ by 20 ms

(B) Scores tend to be about 20 ms from the mean

(C) Most participants had a reaction time of 20 ms

(D) The median is 20 ms higher than the mean

2. Seven quiz scores are 70, 72, 74, 75, 76, 78, and 20. Why does the range give a misleading picture of how spread out most of these scores are?

(A) The range uses every score equally

(B) The range cannot be calculated when there is an extreme score

(C) The range depends only on the highest and lowest scores, so one extreme score inflates it

(D) The range is always smaller than the standard deviation

3. Two therapies both lower anxiety by an average of 10 points. With Therapy A, nearly everyone improved about 10 points; with Therapy B, some improved 25 points and some not at all. Which statement is accurate?

(A) The therapies have the same variability

(B) Therapy A has the larger standard deviation

(C) Therapy B has the higher mean improvement

(D) Therapy B's improvements have the larger standard deviation

NOTES

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