

*P.I. A2.S.4: Calculate measures of dispersion (standard deviation) for both samples and populations*

1. What does the standard deviation of a set of data tell you about the data?

2. Explain what a small standard deviation means.

3. Explain what a large standard deviation means.

5. Create a data set with at least 6 entries such that the standard deviation is 0.

6. Create a set of data that has a standard deviation of at least 2 but no more than 8. Compute the mean and standard deviation.

Answers may vary. Sample: the standard deviation is a measure of the variability of the data, of how much the data varies from the mean.

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[2] The data cluster around the mean.

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[3] The data spread out from the mean.

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Choose STAT and EDIT to enter your data. Then choose STAT, CALC, and 1-VAR STATS to calculate. The standard deviation is indicated by the  $\sigma_x$ .

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[5] Answers may vary. Sample: 8, 8, 8, 8, 8, 8

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[6] Answers may vary. Sample: 18, 19, 20, 22, 23, 23, 23, 24, 26; mean: 22; standard deviation: 2.4

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