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1WW Biology period 3

Pre-Lab #2 Question 3

Standard deviation (σ) is a measure of how spread out numbers are. It is calculated by finding the square root of the variance of a data set. The variance of the data set is the mean of the data set subtracted from each of the members of the data set squared. Each difference is squared, and from those numbers, a new mean has to be found.

1. {6, 7, 2. 5, 11}  
Mean = = = = 4.125  
6 - 4.125 = 1.875 7- 4.125 = 2.875 2.5 - 4.125 = -1.625 11 - 4.125 = 6.875  
Variance = = = = = 15.421875  
σ = = = 3.9270695181

2. {4, 7, 9, 5, 6}

Mean = = = = 6.2  
4 - 6.2 = -2.2 7- 6.2 = 0.8 9 - 6.2 = 2.8 5 - 6.2 = -1.2 6 - 6.2 = -0.2  
Variance = = = = = 2.96  
σ = = = 1.72046505341

The mean tells a single number that represents the middle of a data set including the value of the outliers. Standard deviation tells how close numbers are in a data set. A larger value for standard deviation represents a data that is more spread out.