Variance and standard deviation are both measures of how spread out the data values are from the mean. Variance is the average of the squared differences from the mean, while standard deviation is the square root of the variance. Variance is expressed in squared units, while standard deviation is expressed in the same units as the data. For example, if the data values are in meters, then the variance is in square meters and the standard deviation is in meters.

Standard deviation and variance are two basic mathematical. Both measure the variability of figures within a data set using the mean of a certain group of numbers. They are important to help determine volatility and the distribution of returns. But there are inherent differences between the two. While standard deviation measures the square root of the variance, the variance is the average of each point from the mean.

Standard deviation measures how far apart numbers are in a data set. This metric is calculated as the square root of the variance. This means you have to figure out the variation between each data point relative to the mean. Therefore, the calculation of variance uses squares because it weighs outliers more heavily than data that appears closer to the mean. This calculation also prevents differences above the mean from canceling out those below, which would result in a variance of zero. If the points are further from the mean, there is a higher deviation within the data. But if they are closer to the mean, there is a lower deviation. So the more spread out the group of numbers are, the higher the standard deviation.

A variance is the average of the squared differences from the mean. To figure out the variance, calculate the difference between each point within the data set and the mean. Once you figure that out, square and average the results.