Standard deviation and variance are two formulas that are used in statistical problems. But they both refer to different things when it comes to data. Standard deviation will measure how far apart numbers are in a set of data. Variance gives a value to how numbers vary from the mean in a set of data. Standard deviation is the square root of variance. It is also expressed in the same units as the data set. Standard deviation can be larger than variance if it is a decimal. But variance will be larger than standard deviation anytime it is larger than one. The formula for variance is σ² = ( Σ (x-μ)² ) / N. You will use this formula on a data set to get the variance of the data. You will then take the square root of whatever number you get from using the formula to get the data set's standard deviation. While standard deviation is expressed in the same units as the data, variance will be expressed in squared units. Mathematically, variance is denoted as σ2, and standard deviation is noted as σ. A simple definition for variance is the squared deviation from the mean of a random variable. A simple definition for standard deviation is a measure of how dispersed the data is in relation to the mean. If the standard deviation is low then the data is packed together. If it is high then the data is spaced out. Variance is an indicator of data spread in a group. While standard deviation is an indicator of the observations in a set of data. Both of these are algebraically simpler to use than finding absolutes in a set of data. While the formula for variance is seen as σ² = ( Σ (x-μ)² ) / N, the formula for standard deviation would be seen as σ = √(∑(x−¯x) ( x − x ¯ ) 2 /n). Once you use the formula for variance, all you have to do is take the square root of the result.