CALCULATING STANDARD DEVIATION WORKSHEET

The standard deviation is used to tell how far on average any data point is from the mean. The smaller the standard deviation, he closer the scores are on average to the mean. When the standard deviation is large, the scores are more widely spread on average from the mean.

The **standard deviation** is calculated as the **average distance from the mean.**

Practice Problem:

Find the standard deviation for the following test scores. Use the chart below to record the steps.

85, 100, 92, 96, 87, 94

Follow the steps below to calculate the standard deviation.

Step 1: Average the scores in the *Score* column of the table below in order from the smallest to the largest.

Step 2: Find the mean of the data set and place your answer below on Line A.

Step 3: Subtract each of the scores from the mean. Record the difference in the *Difference From The Mean* column in the table below. Be sure to record whether the answer is positive or negative. (i.e.:4-5=-1,7-5=-2)

Step 4: Find the square of each number in the *Difference From The Mean* column and record the result in the *Square of the Difference* column (i.e.: $(-1)^2 = 1$)

Step 5: The number of items in the data set in labeled *n*. Record the number in this data set on Line B below.

Step 6: Find the sum of the numbers in the *Square of the Difference* and record your answer in the table.

Step 7: Take the Sum of the (*Difference from the Mean*)^2 and divide it by *n*. Record your answer on Line C below.

Step 8: The square root of Line C is the standard deviation. Record your answer on Line D below:

Practice Problem

Find the standard deviation for the following test scores. Use the chart below to record the steps.

85, 100, 92, 96, 87, 94

Score	Difference from the Mean	(Difference from the Mean)^2
	Sum of (Difference from the Mean)^2	

A. Mean:_____ **B. *n*:**_____

C. Sum of (Difference from the Mean)^2 divided by (*n*):_____

D. Standard deviation $\left(\sqrt{\frac{(diff.fromMean)^2}{n}}\right)$ is_____