

Conditions

Which is NOT a step in calculating the standard deviation?

Square each individual difference

Square each of the X values and compute the sum of all the Y values

Sum all of the squared deviations about the mean

Divide the sum by $n - 1$

Solution

As we know, the standard deviation can be found by using the following formula:

$$s = \sqrt{\frac{n}{n-1} \sigma^2} = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2};$$

As we see from this formula, we need here such steps as:

- 1) Square each individual difference
- 2) Sum all of the squared deviations about the mean
- 3) Divide the sum by $n - 1$

We can find the SD after these 3 simple steps.

That's why:

The “Square each of the X values and compute the sum of all the Y values” is NOT a step in calculating the standard deviation