

You Try!

Calculate the standard deviation for the data set: 60, 62, 63, 65, 68, 60, 70, 78, 65, 60

$$\text{mean } (\bar{x}) : \frac{651}{10} = 65.1$$

Data Value (x)	$x - \bar{x}$	$(x - \bar{x})^2$	Variance (average of the squared difference)	Standard Deviation (square root of the variance)
60	-5.1	26.01	$\frac{290.9}{10}$ $V = 29.09$	$\sqrt{29.09}$ $sd = 5.39$
62	-3.1	9.61		
63	-2.1	4.41		
65	-0.1	.01		
68	2.9	8.41		
60	-5.1	26.01		
70	4.9	24.01		
78	12.9	166.41		
65	-0.1	.01		
60	-5.1	26.01		

Ways to Use the Calculator

Calculator Notation: \bar{x} : mean

σx : population standard deviation

s_x : sample standard deviation

Steps for the Calculator

STAT → 1: Edit → Enter the data in L1
→ STAT → CALC → 1: 1-Var Stats

Example

Use your calculator to find the mean and standard deviation of the data set: 31, 25, 25, 26, 22, 30, 33

$$\bar{x} : \underline{27.4}$$

$$\sigma x : \underline{3.66}$$

$$s_x : \underline{3.95}$$

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1) 6, 22, 4, 15, 14, 8, 8

$$\bar{x} : 11$$

$$s_x : 5.83$$

$$s_x : 6.3$$

2) 10, 15, 12, 20, 25, 22, 29

$$\bar{x} : 19$$

$$s_x : 6.46$$

$$s_x : 6.98$$

A small standard deviation means that the data is **more** consistent / **less** spread out

A large standard deviation means that the data is less consistent / **more** spread out

Example

I want to give an award to a student with the most consistent test scores in this class.

Based on the information given below,

who should I give the award to and why?

Leah: 85, 91, 89, 79, 81

Timmy: 77, 85, 93, 96, 74

$$\bar{x} : 85$$

Leah's scores

$$\bar{x} : 85$$

$$s_x : 5.1$$

are more

$$s_x : 8.6$$

$$s_x : 4.6$$

consistent b/c

$$s_x : 9.6$$

the standard

deviations are smaller