

How to find the Standard Deviation

All modern TI graphing calculators (that I know about) allow you to calculate various types of statistics. The TI-84 Plus, in particular, has a powerful suite of [statistics](#) tools.

Demonstration problem: [Calculate the standard deviation](#) of the following set of data { 50, 20, 33, 40, 55 }

Part I enter the data into List₁ **Step 1)** Press "Stat"

```
2ND) CALC TESTS
1) Edit...
2: SortA(
3: SortD(
4: ClrList
5: SetUpEditor
```

Step 2) Hit "enter" button and you should see the three lists on the right. In the next step we will enter all of the scores into L1

L1	L2	L3	1
-----	-----	-----	

Step 4) Press "50" then "enter"

```
L1(1)=
```

L1	L2	L3	1
50	-----	-----	

Step 5) Enter the rest of the data into the calculator by pressing each of the numbers then 'enter' : 20, 33, 40, 55

```
L1(2)=
```

L1	L2	L3	1
50	-----	-----	
20			
33			
40			
55			

Step 6) Return to the main calculator screen by pressing "2nd" then "quit"

```
L1(6)=
```

Step 7) Press "Stat"

```
2ND) CALC TESTS
1) Edit...
2: SortA(
3: SortD(
4: ClrList
5: SetUpEditor
```

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Part I enter the data into List₁ **Step 1)** Press "Stat"

```
2ND] CALC TESTS
1] Edit...
2:] SortA(
3:] SortD(
4:] ClrList
5:] SetUpEditor
```

Step 8) Scroll right to highlight "Calc"

```
EDIT [2ND] TESTS
1] 1-Var Stats
2:] 2-Var Stats
3:] Med-Med
4:] LinReg(ax+b)
5:] QuadReg
6:] CubicReg
7]↓ QuartReg
```

Step 9) Hit "enter"

```
1-Var Stats ■
```

Step 10) hit "2nd" then "L1"

```
1-Var Stats L1 ■
```

Step 11) Press "enter"

```
1-Var Stats
x̄=39.6
Σx=198
Σx²=8614
Sx=13.90323703
σx=12.43543325
↓n=5
■
```

Your good old [TI Graphing Calculator](#) came to the rescue. All of the information that you see in the picture above is quite useful

\bar{x} represents the arithmetic mean

σ_x represents the [standard deviation](#)

Therefore, this set of data has a mean of 39.6 and a [standard deviation](#) of 12.4