


Descriptive Statistics

Using a TI-83 or TI-84 to find the average, standard deviation, and median of a list of numbers

Example Problem

- Find the average, standard deviation, and median of the following list of numbers:

6	6	-10	-2	-4	2	12	-6
---	---	-----	----	----	---	----	----

- Press the STAT key. 
- We need to enter the list of numbers so choose option 1:Edit.

```
2nd 2nd CALC TESTS
1:Edit
2:SortA<
3:SortD<
4:ClrList
5:SetUpEditor
```

- Press 1 or ENTER to select this option. 

Clearing out a list

- You will want to start each problem by clearing out any numbers that may already be in List 1.
- Press the up cursor key until L1 is highlighted.
- Then press CLEAR and ENTER to remove the previous entries on the list.





Before clearing

L1	L2	L3	1
5 22 .1 55 232 4 12	-----	-----	
L1 = {5, 22, .1, 55, ...}			

After clearing

L1	L2	L3	1
-----	-----	-----	
L1() =			

Enter the numbers into the list

- Enter the numbers, one at a time, into the list. Press ENTER after each number to move to the next line.
- Be sure to use the negative key  on the bottom row of the calculator to enter negative numbers on the list. Do not use the subtract key .

6	6	-10	-2	-4	2	12	-6
---	---	-----	----	----	---	----	----

L1	L2	L3	1
-10			
-2			
-4			
2			
12			
-6			
L1(9)=			

Key Press History					Large Screen				
L6 V	ENTRY SOLVE	L6 V	ENTRY SOLVE	ANS ?	L6 V	ENTRY SOLVE	L6 V	ENTRY SOLVE	ANS ?
6	ENTER	6	ENTER	(-)	L1 Y	CATALOG	ENTRY SOLVE	ANS ?	L2 Z
1	0	ENTER	(-)	2	ENTRY SOLVE	ANS ?	L4 T	ENTRY SOLVE	L2 Z
ENTER	(-)	4	ENTER	2	ENTRY SOLVE	ANS ?	L1 Y	L2 Z	ENTRY SOLVE
ENTER	1	2	ENTER	(-)	L6 V	ENTRY SOLVE	L6 V	ENTRY SOLVE	ANS ?
6	ENTER								

Calculating the 1-Var Stats

- Press the STAT key again.
- Cursor over until CALC is highlighted.
- We want option 1:1-Var Stats



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

Differences

TI-83 and older TI-84

- On an older calculator, when you choose 1 or press ENTER you will see this:



1-Var Stats ■

- Press ENTER again to see the results.



Newer TI-84

- On a newer calculator when you choose 1 or press ENTER you will see this:



1-Var Stats
List: L1
FreqList:
Calculate

- Press ENTER 3 times to see the results.



Interpreting the results

- No matter which calculator you use, your results should look like these.
- The first screen shows you the average after the symbol $\bar{x} =$.
- The sample standard deviation is shown after the symbol $Sx =$.
- Using the cursor, you can page down to see the remaining numbers. The median is shown after the symbol $Med =$.
- For this list of numbers, the average is 0.5, the standard deviation is 7.309, and the median is 0.

```
1-Var Stats
 $\bar{x} = .5$ 
 $\Sigma x = 4$ 
 $\Sigma x^2 = 376$ 
 $Sx = 7.309485032$ 
 $\sigma x = 6.837397166$ 
 $\downarrow n = 8$ 
```

```
1-Var Stats
 $\uparrow n = 8$ 
 $\min X = -10$ 
 $Q_1 = -5$ 
 $Med = 0$ 
 $Q_3 = 6$ 
 $\max X = 12$ 
```

Notes: Using a different list

- You can find the statistics for any of the lists (not just the numbers in L1) by specifying which list you want on the 1-Var Stats screen.
- For instance, if I wanted the average of a different list of numbers in L2, I would press 2ND, 2 to access List 2.



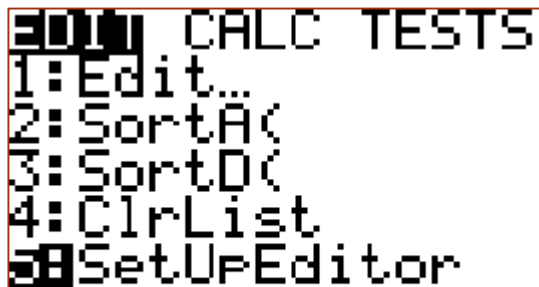
1-Var Stats L2

1-VarStats
List:L2
FreqList:
Calculate

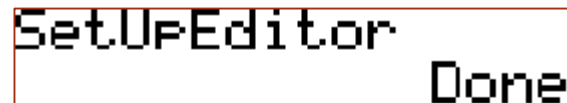
- Then press ENTER 1 or 3 times, depending on your calculator.

Notes: Restoring all the lists

- If your calculator is very old or you purchased it used, L1 may not show up when you go to edit a list of numbers.
- From the STAT screen choose option 5:SetUpEditor and press ENTER once or twice until you see the screen on the right.
- This usually fixes the problem and restores all six lists to the calculator.



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



```
SetUpEditor
Done
```