

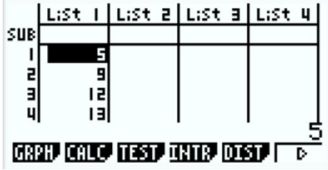
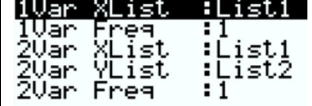
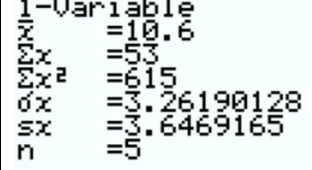
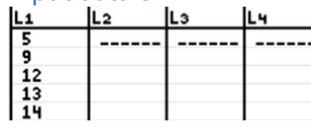
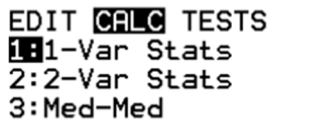
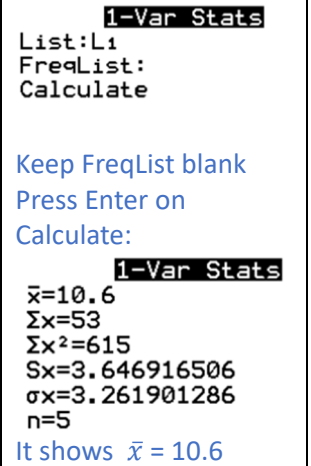
1. What is the mean of the following data set? 5, 9, 12, 13, 14

Sample mean,  $\bar{x}$ ; or population mean,  $\mu$ , is found using the formula, when  $n$  is que number of data values:

$$\bar{x} = \frac{\sum x}{n} \quad \text{or} \quad \mu = \frac{\sum x}{n}$$

$$\bar{x} = \frac{(5+9+12+13+14)}{5} = 10.6$$

On graphing Calculators:

<p><b>CASIO 9750</b> Enter data on List 1</p> 	<p>Press F2 for CALC Make sure F6, SET is set up as follows:</p>  <p>Press EXE and then F1 for 1VAR:</p>  <p>It shows <math>\bar{x} = 10.6</math></p>	<p><b>T184</b> Press STAT then Enter. Input data on L1:</p>  <p>Press STAT again, then choose CALC 1: 1-VAR</p> 	<p>Press Enter</p>  <p>Keep FreqList blank Press Enter on Calculate: It shows <math>\bar{x} = 10.6</math></p>
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2. For the data set 1, 8, 7, 2, 9, 15, 18, the properly rounded mean is 9.

FALSE: the mean should be rounded to one more decimal place that the original data.

In this example  $\bar{x} = \frac{\sum x}{n} = 8.571429 \approx 8.6$

3. Use the given frequency distribution to approximate the mean:

Class	Frequency
0-19	8
20-39	9
40-59	9
60-79	17
80-99	16

See the answer here: [Mean of a frequency distribution.pdf](#)

4. A student receives test scores of 62, 83, 88 and 91; on the online HW, receives 90. Tests are worth 85% of the final grade, and the homework grade is worth 15% of the final grade. What is the student's mean score in the class?

Since the weight of the Tests is 85%, find the mean of all four test and then the 85% of that average. The weight of the HW is 15%, therefore find the 15% of the HW's grade.

$$0.85 \left( \frac{62 + 83 + 88 + 91}{4} \right) + 0.15(90) = 82.35 \approx 82.4$$

5. What is the median of the following set of values? 8, 6, 3, 1, 12

Sort the given values: 1, 3, 6, 8, 12 The median is the value in the middle: since in this example the number of data values is odd (5), the number in the middle is the third value: 6

On Calculators, find the descriptive statistics for a list of values:

<p><b>CASIO 9750</b> Enter data on List 1</p> <table border="1"> <thead> <tr> <th>SUB</th> <th>List 1</th> <th>List 2</th> <th>List 3</th> <th>List 4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>8</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>6</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>GRPH CALC TEST INTR DIST</p>	SUB	List 1	List 2	List 3	List 4	1	8				2	6				3	3				4	1				<p>Press F2 for CALC Make sure F6, SET is set up as follows:</p> <pre>1Var XList :List1 1Var Freq  :1 2Var XList :List1 2Var VList :List2 2Var Freq  :1</pre> <p>Press EXE and then F1 for 1VAR:</p> <pre>1-Variable x̄ =6 σx =3.84707681 Σx² =254 sx =4.30116263 n =5</pre> <p>as the arrow indicates, scroll down:</p>	<pre>1-Variable minX =1 Q1 =2 Med =6 Q3 =10 maxX =12 Mod =1</pre> <p>Med is the median.</p>
SUB	List 1	List 2	List 3	List 4																							
1	8																										
2	6																										
3	3																										
4	1																										

<p><b>TI84</b> Press STAT then Enter. Input data on L1:</p> <table border="1"> <thead> <tr> <th>L1</th> <th>L2</th> <th>L3</th> <th>L4</th> </tr> </thead> <tbody> <tr> <td>8</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>12</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Press STAT again, then choose CALC 1: 1-VAR</p> <p>EDIT CALC TESTS 1:1-Var Stats 2:2-Var Stats 3:Med-Med</p>	L1	L2	L3	L4	8				6				3				1				12				<p>Press Enter</p> <pre>1-Var Stats List:L1 FreqList: Calculate</pre> <p>Keep FreqList blank Press Enter on Calculate. Then scroll down:</p> <pre>1-Var Stats ↑Σx=4.301162634 σx=3.847076812 n=5 minX=1 Q1=2 Med=6 Q3=10 maxX=12</pre> <p>Med is the median.</p>
L1	L2	L3	L4																						
8																									
6																									
3																									
1																									
12																									

6. What is the median of the following set of values? 7, 21, 19, 15, 19, 14, 15, 19

Sort the given data points: 7, 14, 15, 15, 19, 19, 19, 21

Because we have eight values, -- an even number, there are two values in the middle, namely: 15 & 19

The median is the average of the two:  $\frac{15+19}{2} = 17$

On the Calculators, the final output look as follows:

CASIO 9750	TI84
<pre> 1-Variable minX =7 Q1   =14.5 Med  =17 Q3   =19 maxX =21 Mod  =19           </pre>	<pre> 1-Var Stats ↑Sx=4.454131309 σx=4.166458328 n=8 minX=7 Q1=14.5 Med=17 Q3=19 maxX=21           </pre>

7. Find the mode for the following data. 5, 4, 3, 4, 5, 6, 5, 5, 3, 4

The mode is the most repeated value. If it seems confusing, a good advice is to sort the numbers and then determining the most common value: 3, 3, 4, 4, 4, 5, 5, 5, 6

There are three 4s and four 5s; therefore, the mode is 5.

8. What is the midrange of the following data set? 7, 13, 12, 14, 6, 14, 20, 20, 20

$$\text{Midrange} = \frac{\text{min} + \text{max}}{2} = \frac{6 + 20}{2} = 13$$

9. Find the mean, mode, median, and midrange for the following data set.

12, 15, 18, 18, 15, 22, 15, 30, 12

$$\text{mean: } \bar{x} = \frac{\sum x}{n} = \frac{12+15+18+18+15+22+15+30+12}{9} = 17.4$$

mode: Sorting the data: 12, 12, 15, 15, 15, 18, 18, 22, 30 Therefore, the most repeated value is 15

From the sorted data: 12, 12, 15, 15, 15, 18, 18, 22, 30 we determine that 15 is the middle value; therefore, the median is 15.

$$\text{midrange, } \frac{\text{min}+\text{max}}{2} = \frac{12+30}{2} = 21$$

10. The median can be a more appropriate measure of central tendency if the distribution of the data is extremely skewed.

The median can be a more appropriate measure of central tendency than the mean when the distribution of the data is extremely skewed because the median is not affected by extreme values or outliers in the same way that the mean is.