

Statistics Activity 4: One-Variable Descriptive Statistics, Box Plot and Outliers

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CALCULATORS: Casio: fx-9750G Plus & CFX-9850G Series

Keystrokes for the Calculator

From the Main Menu, press **2** for STAT.

If there are data in List 1, follow these directions:

- Press **F6** (make sure that the highlighted cell is List 1 by pressing the right/left arrow).
- Press **F4** (DEL-A) then press **F1** (YES).

Enter Data:

- Type the grade data in List 1.
- With appropriate cell highlighted, type numerical value then **EXE** to store.

List 1	List 2	List 3	List 4
88			
72			
85			
57			

GRAPH CALC TEST DATA DISP

Find One-Variable Statistics:

- Press **F2** (CALC) then **F6** (SET).
- With 1-Var Xlist highlighted, press **F1** (List1).
- Press **EXIT**.
- Press **F1** (1-VAR).
- Use the **down arrow key** to scroll for more values.

1-Variable

\bar{x}	=80.9722222
σ_x	=29.15
Σx^2	=251571
$\bar{x}\sigma_n$	=20.7745652
$\bar{x}\sigma_{n-1}$	=21.0692546
n	=36

1VAR 2VAR REG SET

Create a Box plot:

- Press **EXIT** twice.
- Press **F1** (GRPH) then **F6** (SET).
- Press down arrow key to Graph Type, press **F6**, then press **F2** for MedBox.
- Press down arrow key to XList then press **F1** (List1).
- Press **EXIT F1** for Graph 1.

1-Variable

minX	=24
Q1	=71.5
Med	=86.5
Q3	=96.5
$\bar{x}-\bar{x}\sigma_n$	=60.1976569
$\bar{x}+\bar{x}\sigma_n$	=101.746787

1VAR 2VAR REG SET

To Trace, press **SHIFT F1**.

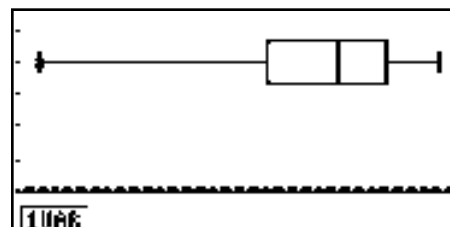
StatGraph1

Graph Type	:MedBox
XList	:List1
Frequency	:1
Outliers	:Off

GRAPH GPH2 GPH3

If your graph does not appear, follow these directions:

- Press **SHIFT** then **MENU**.
- Press **F1** to change Stat Window to Auto.
- Press **EXIT**.



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Student Worksheet Activity 4

The following data were the daily grades for a Calculus I class.

89	99	104	76	37	75	75	97	61	80	81	24
87	102	51	102	92	71	67	90	89	108	96	106
58	81	86	35	107	98	95	94	88	72	85	57

- a) Find the following:

Mean= _____ Median= _____ Mode: _____

Interpret these measures of central tendency.

- b) Find the following:

Standard deviation for sample = _____

Range = _____

Interpret these measures of dispersion.

- c) Find the five values needed for to graph the Box Plot.

Minimum = _____ Q1 = _____ Median = _____

Q3= _____ Maximum = _____

- d) Sketch the Box Plot below:



- e) Determine mathematically if there are any outliers and identify the outliers if applicable.
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- Discuss reasons why or why not there are outliers.