

TI and Casio Calculator Directions
from
Advanced High School Statistics
First Edition

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Casio fx-9750GII: Entering data

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. Optional: use the left or right arrows to select a particular list.
3. Enter each numerical value and hit **EXE**.



Casio fx-9750GII: Drawing a box plot and 1-variable statistics

1. Navigate to **STAT** (**MENU**, then hit **2**) and enter the data into a list.
2. Go to **GRPH** (**F1**).
3. Next go to **SET** (**F6**) to set the graphing parameters.
4. To use the 2nd or 3rd graph instead of **GPH1**, select **F2** or **F3**.
5. Move down to **Graph Type** and select the **▷** (**F6**) option to see more graphing options, then select **Box** (**F2**).
6. If **XList** does not show the list where you entered the data, hit **LIST** (**F1**) and enter the correct list number.
7. Leave **Frequency** at **1**.
8. For **Outliers**, choose **On** (**F1**).
9. Hit **EXE** and then choose the graph where you set the parameters **F1** (most common), **F2**, or **F3**.
10. If desired, explore 1-variable statistics by selecting **1-Var** (**F1**).



Casio fx-9750GII: Deleting a data list

1. Navigate to **STAT** (**MENU**, then hit **2**).
2. Use the arrow buttons to navigate to the list you would like to delete.
3. Select **▷** (**F6**) to see more options.
4. Select **DEL-A** (**F4**) and then **F1** to confirm.

Casio fx-9750GII: Binomial calculations

1. Navigate to **STAT** (MENU, then hit 2).
2. Select **DIST** (F5), and then **BINM** (F5).
3. Choose whether to calculate the binomial distribution for a specific number of successes, $P(X = k)$, or for a range $P(X \leq k)$ of values (0 successes, 1 success, ..., k successes).
 - For a specific number of successes, choose **Bpd** (F1).
 - To consider the range 0, 1, ..., k successes, choose **Bcd**(F1).
4. If needed, set **Data** to **Variable** (Var option, which is F2).
5. Enter the value for **x** (k), **Numtrial** (n), and **p** (probability of a success).
6. Hit **EXE**.

Casio fx-9750GII: Finding area under the normal curve

1. Navigate to **STAT** (MENU, then hit 2).
2. Select **DIST** (F5), then **NORM** (F1), and then **Ncd** (F2).
3. If needed, set **Data** to **Variable** (Var option, which is F2).
4. Enter the **Lower** Z-score and the **Upper** Z-score. Set σ to 1 and μ to 0.
 - If finding just a lower tail area, set **Lower** to -12.
 - For an upper tail area, set **Upper** to 12.
5. Hit **EXE**, which will return the area probability (**p**) along with the Z-scores for the lower and upper bounds.

Casio fx-9750GII: Find a Z-score that corresponds to a percentile

1. Navigate to **STAT** (MENU, then hit 2).
2. Select **DIST** (F5), then **NORM** (F1), and then **InvN** (F3).
3. If needed, set **Data** to **Variable** (Var option, which is F2).
4. Decide which tail area to use (**Tail**), the tail area (**Area**), and then enter the σ and μ values.
5. Hit **EXE**.

Casio fx-9750GII: 1-proportion z-interval

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. Choose the **INTR** option (**F4** button).
3. Choose the **Z** option (**F1** button).
4. Choose the **1-P** option (**F3** button).
5. Specify the interval details:
 - Confidence level of interest for **C-Level**.
 - Enter the number of successes, **x**.
 - Enter the sample size, **n**.
6. Hit the **EXE** button, which returns

Left, Right	ends of the confidence interval
\hat{p}	sample proportion
n	sample size

Casio fx-9750GII: 1-proportion z-test

The steps closely match those of the 1-proportion confidence interval.

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. Choose the **TEST** option (**F3** button).
3. Choose the **Z** option (**F1** button).
4. Choose the **1-P** option (**F3** button).
5. Specify the test details:
 - Specify the sidedness of the test using the **F1**, **F2**, and **F3** keys.
 - Enter the null value, **p0**.
 - Enter the number of successes, **x**.
 - Enter the sample size, **n**.
6. Hit the **EXE** button, which returns

z	Z-statistic
p	p-value
\hat{p}	the sample proportion
n	the sample size

Casio fx-9750GII: 2-proportion z-test

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. Choose the **TEST** option (**F3** button).
3. Choose the **Z** option (**F1** button).
4. Choose the **2-P** option (**F4** button).
5. Specify the test details:
 - Specify the sidedness of the test using the **F1**, **F2**, and **F3** keys.
 - Enter the number of successes for each group, **x1** and **x2**.
 - Enter the sample size for each group, **n1** and **n2**.

6. Hit the **EXE** button, which returns

z	Z-statistic	p1 , p2	sample proportions
p	p-value	p̂	pooled proportion
		n1 , n2	sample sizes

Casio fx-9750GII: 1-sample t-test

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. If necessary, enter the data into a list.
3. Choose the **TEST** option (**F3** button).
4. Choose the **t** option (**F2** button).
5. Choose the **1-S** option (**F1** button).
6. Choose either the **Var** option (**F2**) or enter the data in using the **List** option.
7. Specify the test details:
 - Specify the sidedness of the test using the **F1**, **F2**, and **F3** keys.
 - Enter the null value, μ_0 .
 - If using the **Var** option, enter the summary statistics. If using **List**, specify the list and leave **Freq** values at **1**.

8. Hit the **EXE** button, which returns

	alternative hypothesis	x̄	sample mean
t	T statistic	sx	sample standard deviation
p	p-value	n	sample size

Casio fx-9750GII: 1-sample t -interval

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. If necessary, enter the data into a list.
3. Choose the **INTR** option (**F3** button), **t** (**F2** button), and **1-S** (**F1** button).
4. Choose either the **Var** option (**F2**) or enter the data in using the **List** option.
5. Specify the interval details:
 - Confidence level of interest for **C-Level**.
 - If using the **Var** option, enter the summary statistics. If using **List**, specify the list and leave **Freq** value at **1**.
6. Hit the **EXE** button, which returns

Left , Right	ends of the confidence interval
\bar{x}	sample mean
sx	sample standard deviation
n	sample size

Casio fx-9750GII: 2-sample t -test

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. If necessary, enter the data into a list.
3. Choose the **TEST** option (**F3** button).
4. Choose the **t** option (**F2** button).
5. Choose the **2-S** option (**F2** button).
6. Choose either the **Var** option (**F2**) or enter the data in using the **List** option.
7. Specify the test details:
 - Specify the sidedness of the test using the **F1**, **F2**, and **F3** keys.
 - If using the **Var** option, enter the summary statistics for each group. If using **List**, specify the lists and leave **Freq** values at **1**.
 - Choose whether to pool the data or not.
8. Hit the **EXE** button, which returns

$\mu 1 - \mu 2$	alt. hypothesis	$\bar{x} 1$, $\bar{x} 2$	sample means
t	t statistic	sx1 , sx2	sample standard deviations
p	p-value	n1 , n2	sample sizes
df	degrees of freedom		



Casio fx-9750GII: Chi-square goodness of fit test

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. Enter the observed counts into a list (e.g. **List 1**) and the expected counts into list (e.g. **List 2**).
3. Choose the **TEST** option (**F3** button).
4. Choose the **CHI** option (**F3** button).
5. Choose the **GOF** option (**F1** button).
6. Adjust the **Observed** and **Expected** lists to the corresponding list numbers from Step 2.
7. Enter the degrees of freedom, **df**.
8. Specify a list where the contributions to the test statistic will be reported using **CNTRB**. This list number should be different from the others.
9. Hit the **EXE** button, which returns

χ^2	chi-square test statistic
p	p-value
df	degrees of freedom
CNTRB	list showing the test statistic contributions



Casio fx-9750GII: Chi-square test of homogeneity and independence

1. Navigate to **STAT** (**MENU** button, then hit the **2** button or select **STAT**).
2. Choose the **TEST** option (**F3** button).
3. Choose the **CHI** option (**F3** button).
4. Choose the **2WAY** option (**F2** button).
5. Enter the data into a matrix:
 - Hit **▷MAT** (**F2** button).
 - Navigate to a matrix you would like to use (e.g. **Mat C**) and hit **EXE**.
 - Specify the matrix dimensions: **m** is for rows, **n** is for columns.
 - Enter the data.
 - Return to the test page by hitting **EXIT** twice.
6. Enter the **Observed** matrix that was used by hitting **MAT** (**F1** button) and the matrix letter (e.g. **C**).
7. Enter the **Expected** matrix where the expected values will be stored (e.g. **D**).
8. Hit the **EXE** button, which returns

χ^2	chi-square test statistic
p	p-value
df	degrees of freedom
9. To see the expected values of the matrix, go to **▷MAT** (**F6** button) and select the corresponding matrix.



Casio fx-9750GII: finding b_0 , b_1 , R^2 , and r for a linear model

1. Navigate to **STAT** (MENU button, then hit the **2** button or select **STAT**).
2. Enter the x and y data into 2 separate lists, e.g. x values in **List 1** and y values in **List 2**. Observation ordering should be the same in the two lists. For example, if (5, 4) is the second observation, then the second value in the x list should be 5 and the second value in the y list should be 4.
3. Navigate to **CALC** (F2) and then **SET** (F6) to set the regression context.
 - To change the **2Var XList**, navigate to it, select **List** (F1), and enter the proper list number. Similarly, set **2Var YList** to the proper list.
4. Hit **EXIT**.
5. Select **REG** (F3), **X** (F1), and **a+bx** (F2), which returns:

a	b_0 , the y-intercept of the best fit line
b	b_1 , the slope of the best fit line
r	r , the correlation coefficient
r²	R^2 , the explained variance
MSe	Mean squared error, which you can ignore

If you select **ax+b** (F1), the **a** and **b** meanings will be reversed.



Casio fx-9750GII: Linear regression t -test on β_1

1. Navigate to **STAT** (MENU button, then hit the **2** button or select **STAT**).
2. Enter your data into 2 lists.
3. Select **TEST** (F3), **t** (F2), and **REG** (F3).
4. If needed, update the sidedness of the test and the **XList** and **YList** lists. The **Freq** should be set to **1**.
5. Hit **EXE**, which returns:

t	t statistic	b	b_1 , slope of the line
p	p-value	s	st. dev. of the residuals
df	degrees of freedom for the test	r	r , correlation coefficient
a	b_0 , y-intercept of the line	r²	R^2 , explained variance