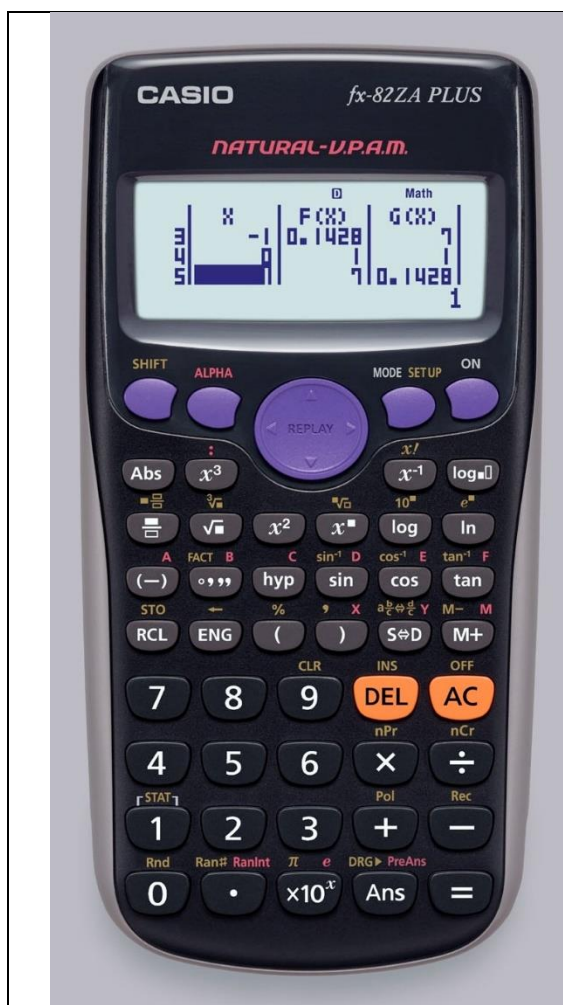


CASIO®

Fx-82ZA PLUS Workshop



[SHIFT] [SETUP]

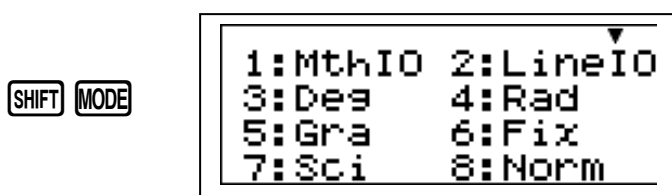
1. **MthIO(Maths Input / Output format)**
 2. **LineIO(Linear Input / Output format)**
 3. **Deg (Degrees – angle unit)**
 4. **Rad (Radians – angle unit)**
 5. **Gra (Gradians – angle unit)**
 6. **Fix (number of Decimal places)**
 7. **Sci (number of Significant digits)**
 8. **Norm (Exponential display range)**
-
1. **ab/c (Mixed fraction format)**
 2. **d/c (Improper fraction format)**
 3. **STAT (Frequency column on / off)**
 4. **TABLE (f(x) / f(x) and g(x))**
 5. **Disp (Decimal Point: Dot / Comma)**
 6. **Auto Power Off (10min / 60min)**
 7. **CONT (Adjusts display contrast)**

Before we start we are going to clear and set up the calculator

1) Resetting/ Clearing	2) Normal Mode
<p>(SHIFT) (9)</p> <div data-bbox="209 416 628 562" style="border: 1px solid black; padding: 5px;"> <pre>Clear? 1: Setup 2: Memory 3: All</pre> </div> <p>(3)</p> <div data-bbox="209 687 628 833" style="border: 1px solid black; padding: 5px;"> <pre>Reset All? [=] : Yes [AC] : Cancel</pre> </div> <p>(=)</p> <div data-bbox="209 958 628 1104" style="border: 1px solid black; padding: 5px;"> <pre>Reset All Press [AC] key</pre> </div>	<p>(SHIFT) (MODE)</p> <div data-bbox="817 416 1236 562" style="border: 1px solid black; padding: 5px;"> <pre>1: MthIO 2: LineIO 3: Deg 4: Rad 5: Gra 6: Fix 7: Sci 8: Norm</pre> </div> <p>(8)</p> <div data-bbox="817 687 1236 833" style="border: 1px solid black; padding: 5px;"> <pre>Norm 1~2?</pre> </div> <p>(2)</p> <p>We select Option 2 so that our answers appear in a decimal format and not scientific notation.</p>

Rounding Off:

We are able to 'fix' numbers to a selected decimal place.



Choose Option (6)

Select the number of Decimal Places you want

Note the word FIX on the top of your screen.

Your answer will now be rounded off to a selected decimal place.

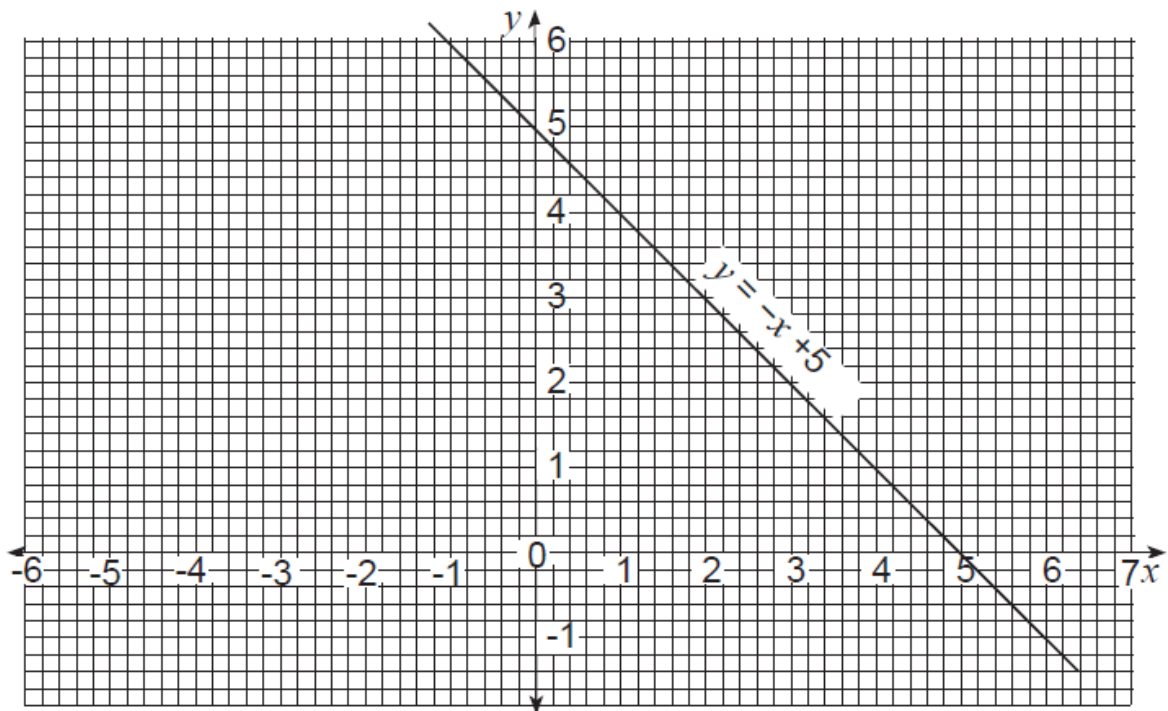
BUT

This must be undone, as it does not automatically go away. Meaning all answers will continuously be rounded to a selected number of decimals and not only the final answers rounded.



Now try this:

The diagram shows the graph of $y = -x + 5$.



(a) Complete the table of values for the equation $y = x + 1$.

x	-2	0	2	(ii)
y	(i)	1	3	5

(b) Draw the graph of $y = x + 1$ on the grid above.

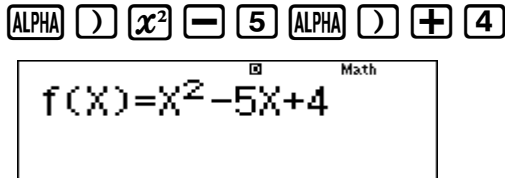
(c) Write down the coordinates of the point where the two graphs intersect.

- C2.10 Construct tables of values for functions of the form $ax + b$, $\pm x^2 + ax + b$, $\frac{a}{x}$ ($x \neq 0$), where a and b are integer constants. Draw and interpret such graphs. Solve linear and quadratic equations approximately by graphical methods.

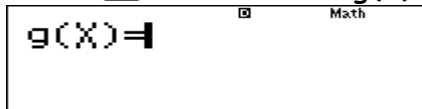
Using the calculator to assist in drawing a graph.

Eg 2: Draw the graph for $y = x^2 - 5x + 4$

Step 1: Enter the equation

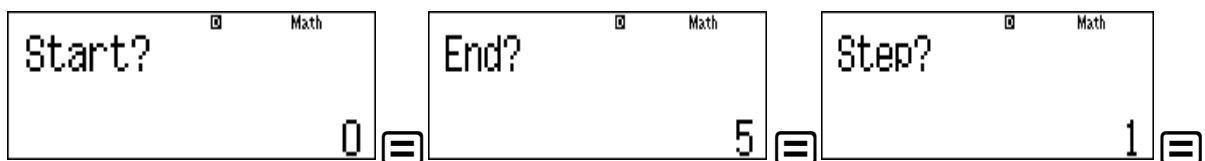


Step 2: Press \equiv enter in the g(x) if you have a second equation.

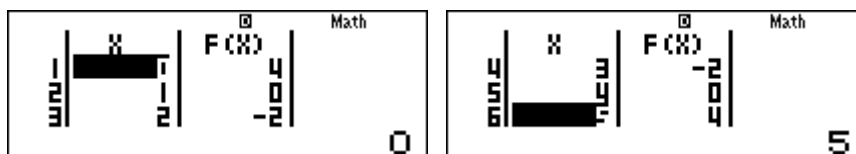


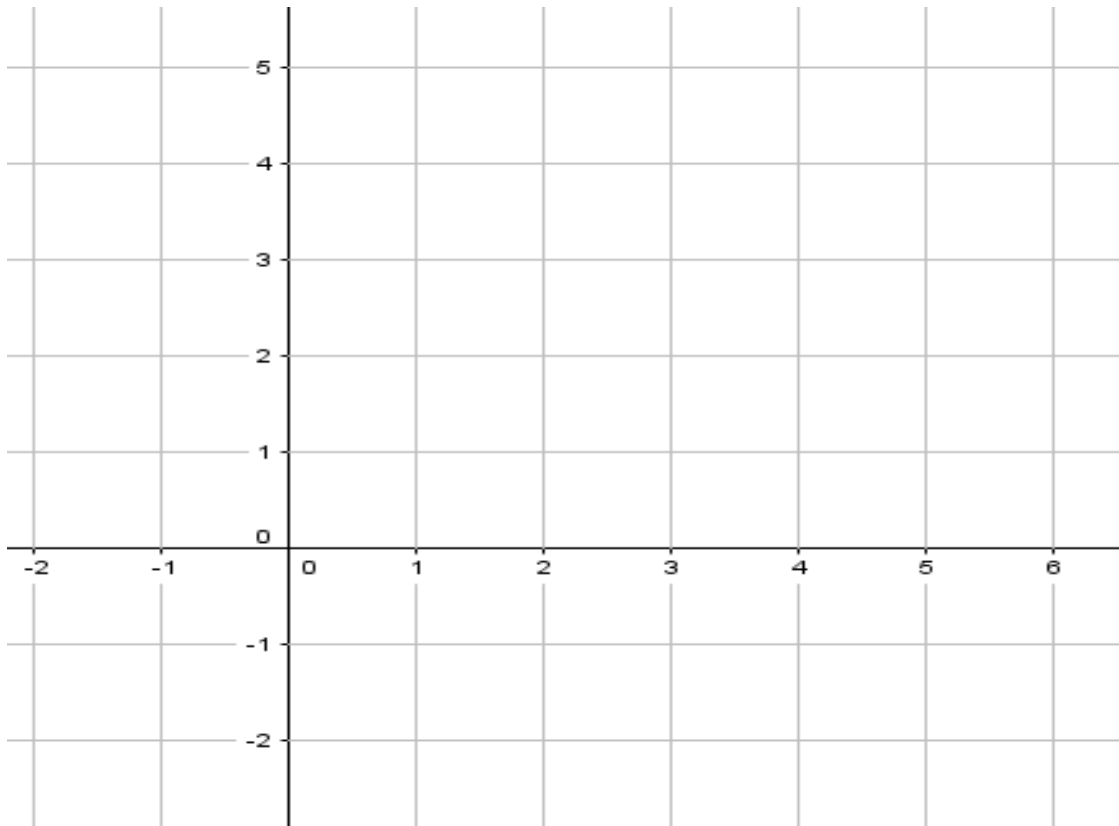
Step 3: Enter in the Start, End and Step.

Notes:



This will generate your table, therefore we have generated the co-ordinates and can now draw the graph.





Now try these:

10 A table of values for for $y = 6 + x - x^2$ is given below.

x	-3	-2	-1	0	1	2	3	4
y	p	0	q	6	r	q	0	p

(a) Calculate the values of p , q and r .

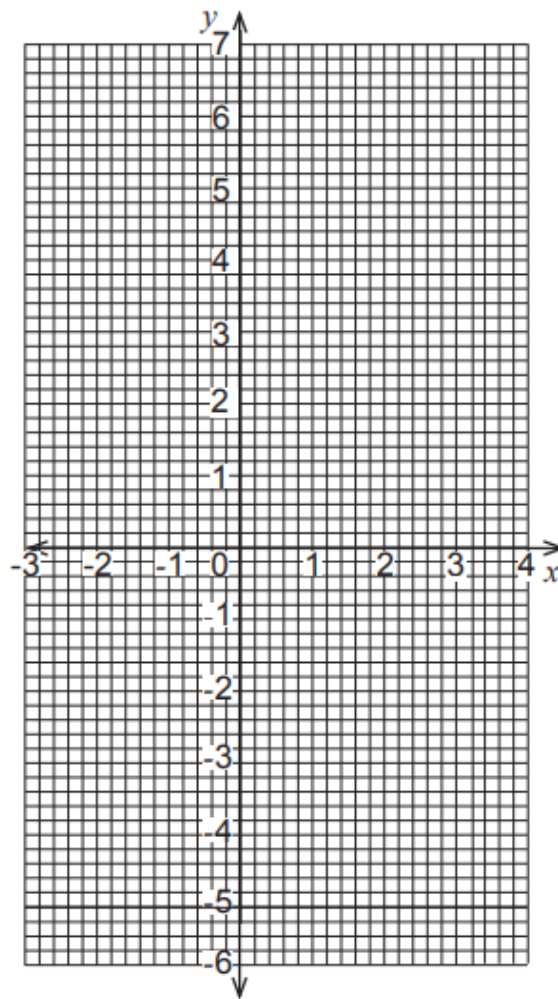
Answer (a) $p = \dots\dots\dots$

$q = \dots\dots\dots$

$r = \dots\dots\dots$

[3]

(b) On the grid, draw the graph of $y = 6 + x - x^2$ for $-3 \leq x \leq 4$.



(c) On the same grid draw the graph of $y = -x - 2$. [2]

(d) Write down the coordinates of the points of intersection for the two graphs.

Answer (d) (..... ,) and (..... ,) [2]

MODE 2: STATISTICS

MODE 1:COMP 2:STAT
3:TABLE

Select Option **2**

A Stats Menu comes up

1:1-VAR 2:A+BX
3:--+CX² 4:ln X
5:e^X 6:A·B^X
7:A·X^B 8:1/X

Note we will only focus on Option 1 Data Handling

Select **1**


Data Handling:

Eg1: 14 learners in Grade 10 were asked to work out how many kilometers (km) they lived from school. The following list of data shows the distances in km.

4; 7; 1; 9; 4; 8; 11; 10; 19; 2; 5; 7; 19; 3

First we need to enter this information into the calculator.
Press equals after every input.

4 **=** **7** **=** **1** **=** **9** **=** **4** **=** **8** **=** **1** **1** **=** **1** **0** **=** **1** **9** **=** **2**
= **5** **=** **7** **=** **1** **9** **=** **3** **=**



Remember to
check the
data entered

Now Press the following key sequence: **AC** **SHIFT** **1**

```

1:Type  2:Data
3:Sum   4:Var
5:MinMax
    
```

Breakdown of Data Handling Menu:

Key	Menu Item	Explanation
1. Type	Stats Menu	Changes stats type
2. Data		Displays the data that you input
3. Sum	1. Σx^2 2. Σx	1. Sum of the squares 2. Sum/ Total of data
4. Var	1. n 2. \bar{x} 3. δx 4. s_x	Number of samples Mean Population standard deviation Sample standard deviation
5. MinMax	1. Min 2. Max	1. Indicates the minimum value 2. Indicates the maximum value

A) What is the total distance, in km, travelled by all the learners? _____

To calculate the total distance you will select Option 3: SUM.
 There are no Squares in our data so select Option 2: Σx
 Press Equals =
 This answer is the total amount or sum of the data you entered.

B) Calculate the mean distance these 14 learners live from school. _____

To do further calculations Press **AC** **SHIFT** **1** to return to the Stats Menu.

To calculate the mean distances you will select Option 4: VAR.
 Then select Option 2: \bar{x} (Mean)
 Press Equals =
 This answer is the mean value of the data you entered.

Let us look at a different question:

The following table shows the number of absences from a class over a period of 25 days.

No of Absences (x)	Frequency (f)
0	5
1	6
2	12
3	2

Calculate the frequency table to calculate the following:

- 1) Mean _____
- 2) Range _____

For this we will need to switch a frequency table on

Switching a Frequency Table On:

Key Sequence:

The diagram illustrates the key sequence to switch a frequency table on. It starts with the **SHIFT** and **MODE** keys, leading to a mode selection screen with options: 1: MthIO, 2: LineIO, 3: Deg, 4: Rad, 5: Gra, 6: Fix, 7: Sci, 8: Norm. Pressing the **3** key leads to a screen asking "Frequency?" with options 1: ON and 2: OFF. Pressing the **1** key leads to the final frequency table screen, which displays "STAT" and "FREQ" with a cursor on the "FREQ" option.

A calculator cannot generate a frequency table from a list of given data, this will have to be done manually.

Contact details:

Lauren Izaaks (Durban, KZN)

Email:

laureni@jamesralph.com