
Casio ClassPad 400 calculator companion for general maths 3

gary anderson



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Thanks are extended to John Short his work in the preparation of this booklet and to the late Dave Rush for the initial work that he did in instigating the calculator companions.

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SOME BASICS

At first glance there doesn't seem to be a lot to your calculator! But, there are many more functions that you can access with the stylus on the screen. You can make this calculator as 'basic' as you like or as 'complicated' as you like!

MENU

Screens that you will mainly use in this course are:



Main – used for 'regular' maths and for bringing in various
– **Action** and **Interactive** options.



Graphs and tables – where the function is given.



Statistics – find lines of best fit for given data
– work in data analysis.



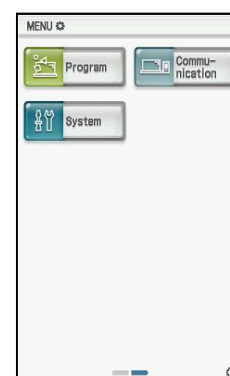
Number Solver – obtain the value of a variable in an equation
without simplifying or transposing.



Financial – simple interest and compound interest.



Sequence – Explicit (arithmetic and geometric sequences)
– Recursive (difference equations)

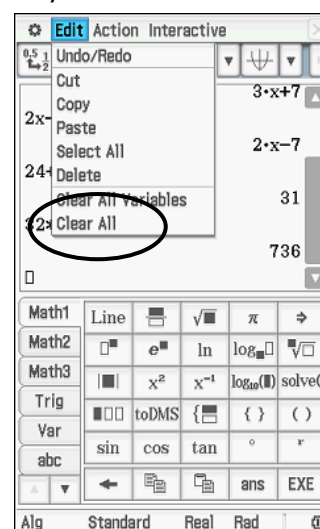


You will need to use the select button to get all menu items!

CLEARING THE MAIN SCREEN

When you have a cluttered or full screen or need to clear something off your screen.

Edit..clear all OK



OTHER THINGS

There will be many shortcuts and variations that you will learn about as you use this calculator. There are also a number of ways of doing the same thing as well!

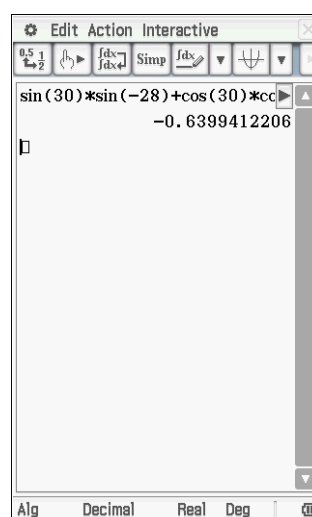
The **Edit..Undo** is very handy and you may become expert at 'Clicking and Dragging'!

When you have a cluttered or full screen or need to clear something off your screen.

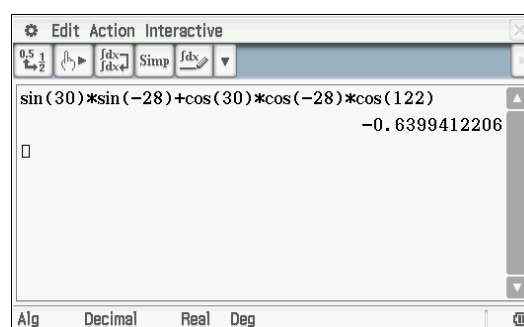
Edit..clear all OK

Rotate Option  - Main Screen ONLY 

When entering a large amount of information on the main screen, the Rotate facility can be very handy



Rotate

SOME MAINTENANCE TIPS

Keep an eye on the battery indicator and change your batteries when the battery indicator is on one bar. 

If you lose your stylus, a used up (empty) ball point pen can be used instead. Avoid using a working pen!

BIVARIATE DATA ANALYSIS

SKETCH GRAPH OF A STRAIGHT LINE

Prepare a screen plot of the function

Prepare a screen plot of the function $y = 3x + 5$ and find the x and y intercepts

Menu..Graph and Table 

$$y1 = 3x + 5 \text{ [EXE]}$$

To graph 

(If you can't see the graph, try Zoom.Quick Standard or Zoom..Auto)

To resize the graph 

In order to trace along the graph and find the y-intercept

Analysis... trace

0 OK

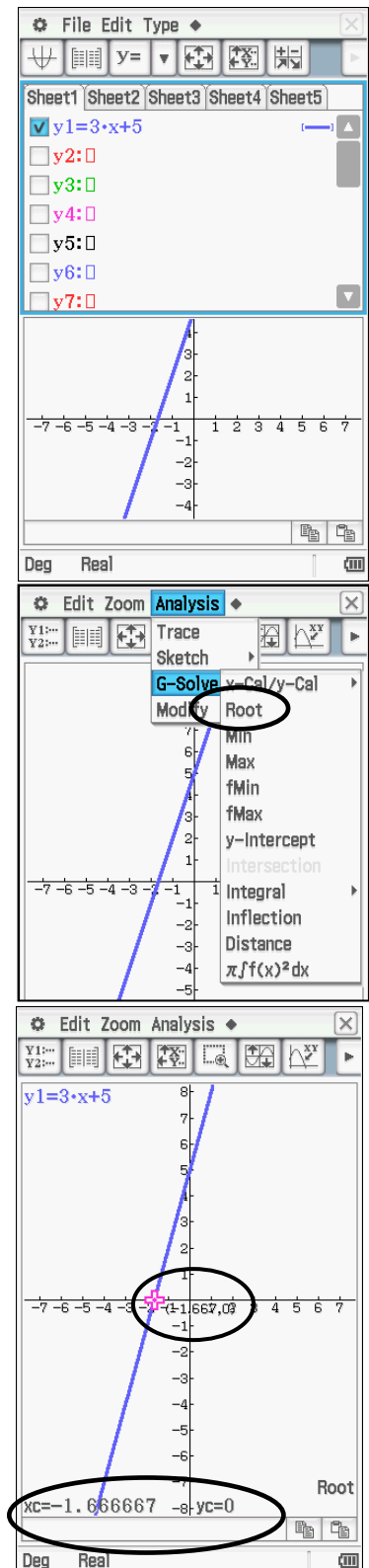
y-intercept (0, 5)

(Other points can be found entering an x value and [EXE])

To find the x- intercept

Analysis..G-Solve..Root

x-intercept (-1.67, 0)



LINE BETWEEN TWO POINTS

Find the equation of the line that passes through the points (-1, 4) and (4, 14)

Menu.. Statistics 

Enter the x-values into list 1 and the y-values into list 2

Set up graph settings

SetGraph.... Setting...

For Statgraph 1

Check the settings are/ or change to:

Type: **Scatter**

XList: **list 1**

YList: **list 2**

Freq: **1**

Mark: **Square**

Set

(To see the two points on the graph )

To find the function, click on the graph

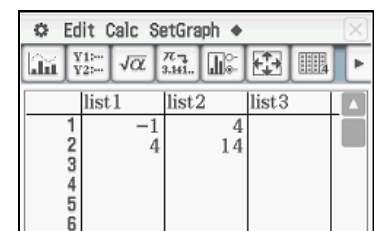
Calc...Regression...Linear Reg...OK

Answer: $y = 2x + 6$

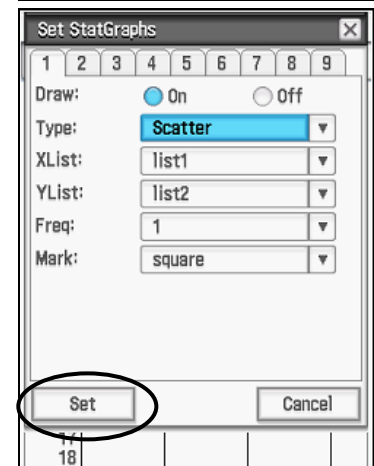
OK to see the graph

To see the equation on the graph (Analysis..Trace)

NOTE: The Trace button can also be used to values of 'y given x'.



	list1	list2	list3
1	-1	4	
2	4	14	
3			
4			
5			
6			



Set StatGraphs

Draw: ☒ On ☐ Off

Type: **Scatter**

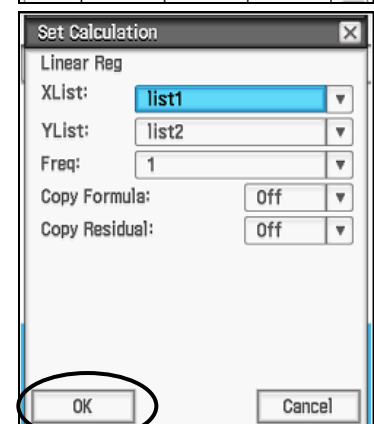
XList: list1

YList: list2

Freq: 1

Mark: square

Set Cancel



Set Calculation

Linear Reg

XList: list1

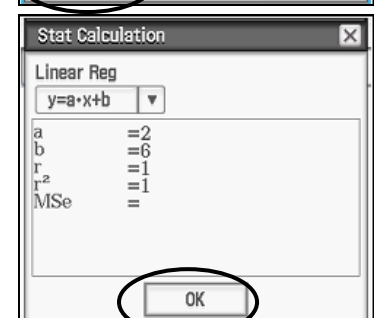
YList: list2

Freq: 1

Copy Formula: Off

Copy Residual: Off

OK Cancel



Stat Calculation

Linear Reg

$y = a \cdot x + b$

a = 2

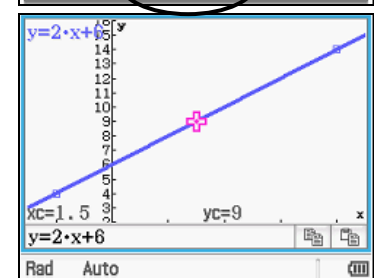
b = 6

r = 1

$r^2 = 1$

MSe =

OK



INTERSECTION OF TWO LINES

Find the point of intersection of $y = 2x - 5$ and $y = -3x + 10$

Menu.. Graph and Table 

Enter the two equations

$$y_1 = 2x - 5$$

$$y_2 = -3x + 10$$

To see the graph 

Resize



to resize the graph.

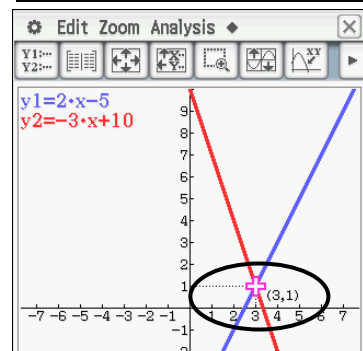
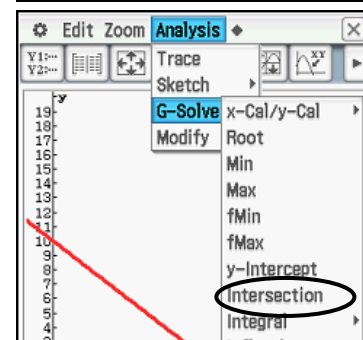
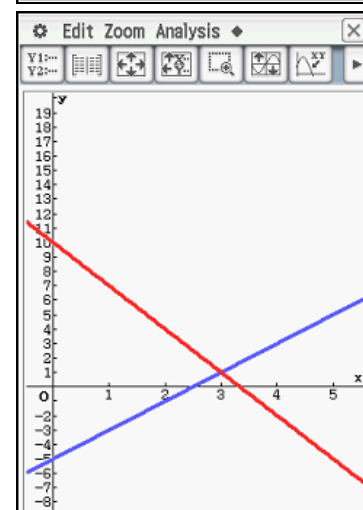
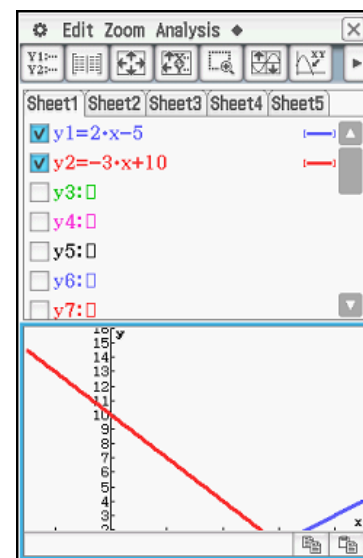
(If necessary, you can move the graph with your stylus or adjust

Zoom Window , or use Zoom....Auto).

To find the intersection point

Analysis..G-solve..intersection

Answer: The graphs intersect at (3, 1)



SCATTER PLOTS & LINES OF BEST FIT

A business man records the daily temperature and the number of cans of soft drink that his vending machine sells over an 8 day period.

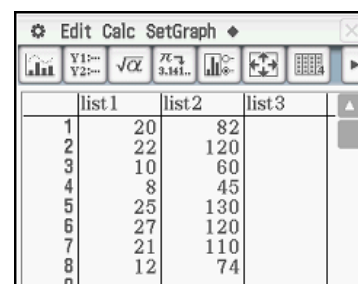
Daily Temp (°C)	20	22	10	8	25	27	21	12
No. of cans sold)	82	120	60	45	130	120	110	74

Plot a scatter plot of the data on your calculator and find the equation to the line of best fit.

Menu.. statistics 

Enter the x-values into list 1 and the y-values into list 2

(Edit.. Clear All if data there already)



	list 1	list 2	list 3
1	20	82	
2	22	120	
3	10	60	
4	8	45	
5	25	130	
6	27	120	
7	21	110	
8	12	74	
9			

Set up your graph settings

SetGraph.... Setting...

For Statgraph 1

Check the settings are/ or change to:

Type: Scatter

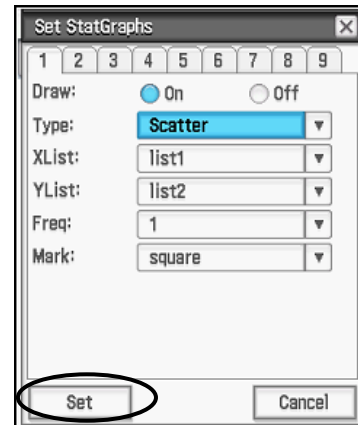
XList: list 1

YList: list 2

Freq: 1

Mark: Square

Set



Set StatGraphs

Draw: ☒ On ☐ Off

Type: Scatter

XList: list1

YList: list2

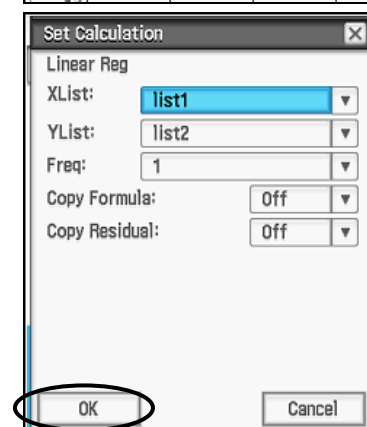
Freq: 1

Mark: square

Set Cancel

To find the function, click on the graph 

Calc...Regression...Linear Reg...OK



Set Calculation

Linear Reg

XList: list1

YList: list2

Freq: 1

Copy Formula: Off

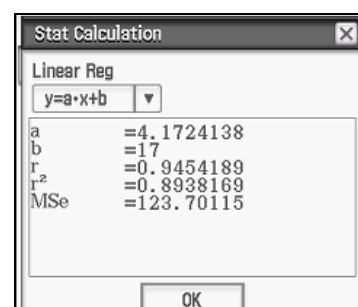
Copy Residual: Off

OK Cancel

Answer: $y = 4.17x + 17$ or $N = 4.17T + 17$

(Correlation coefficient, r , = 0.9454.

Coefficient of determination, $r^2 = 0.8935$ - consult your compendium for information on these.)



Stat Calculation

Linear Reg

$y = a \cdot x + b$

a = 4.1724138

b = 17

r = 0.9454189

r^2 = 0.8938169

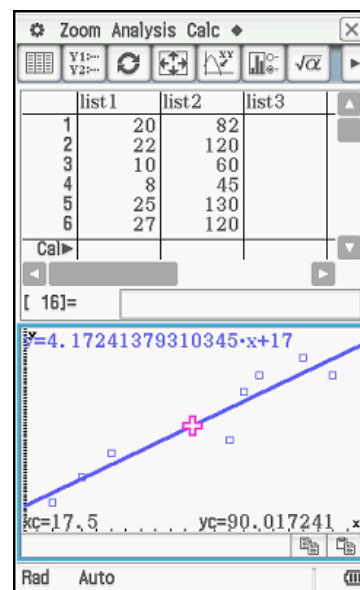
MSe = 123.70115

OK

OK to see the graph

To see the equation on the graph Analysis..Trace

Note: You can move between the points and the line using 



GRAPHICAL PREDICTIONS USING G-SOLVE - INTERPOLATION & EXTRAPOLATION

Graphical predictions can be made by entering the function into Graph and Table , then using G-solve, x-Cal or y-Cal

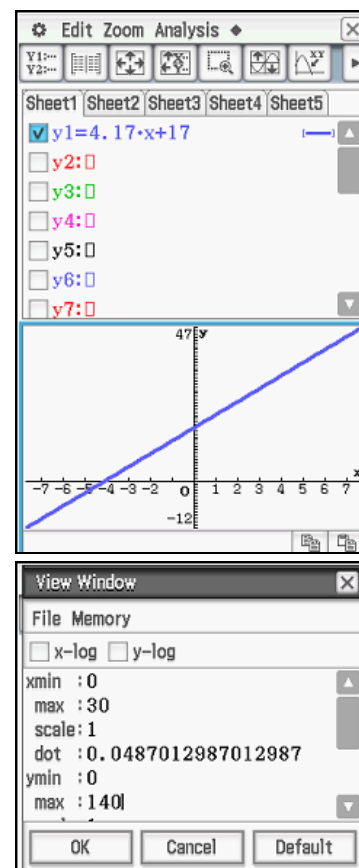
For the cans of soft drink example, predict the number of cans sold if the temperature was 17 °C.

Menu.. Graph and Table 

Enter the function

$$y1 = 4.17x + 17$$

To see the graph 



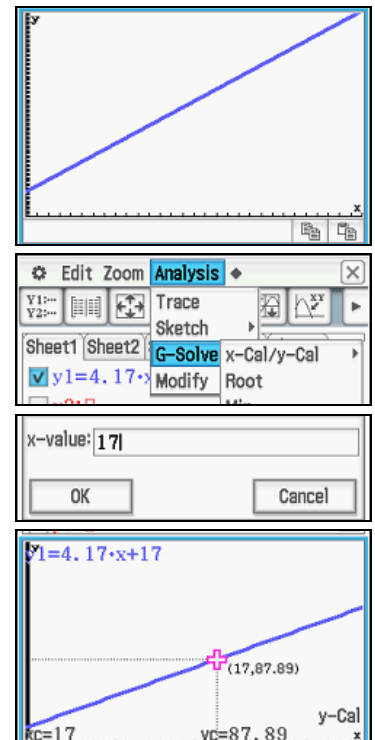
To use y-Cal for an x-value of 17, this value must be on the screen. Either zoom out or change the view window  to include this x-value

(Example: 0, 30, 1, 0, 140, 1 and OK)

With the graph displayed

Analysis..G-solve..y-Cal

x-value: 17 OK



Answer: Approximately 88 cans of soft drink will be sold

'SOLVE NUMERICALLY' CAS FUNCTION

Another way of solving equations is to use the CAS solve function on your calculator.

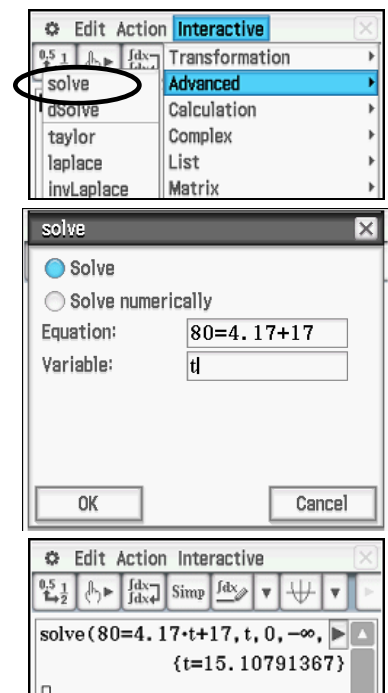
Example: Predict the temperature when 80 cans of soft drink are sold.

Main

Interactive..Advanced...solve

Select Solve numerically

Enter the equation $80 = 4.17t + 17$ use to enter t and make the variable t OK..OK



Answer: The temperature is approximately 15 °C when 80 cans are sold.

Consult your compendium to help comment on the reliability of these predictions.

RESIDUAL ANALYSIS

Prepare a plot of residuals for the 'drinking vending machine' data.

Daily Temp (°C)	20	22	10	8	25	27	21	12
No. of cans sold)	82	120	60	45	130	120	110	74

If required, re-enter the data into Statistics , list1 and list2.

Menu.. statistics 

Enter the x-values into list 1 and the y-values into list 2

(Edit.. Clear All if data there already)

Calc..Regression..Linear Reg

Copy Formula: **y1**

Copy Residual: **list 3**

(use the pull down arrows to do this)

OK..OK

Click into the table screen and select

SetGraph..Setting

Change

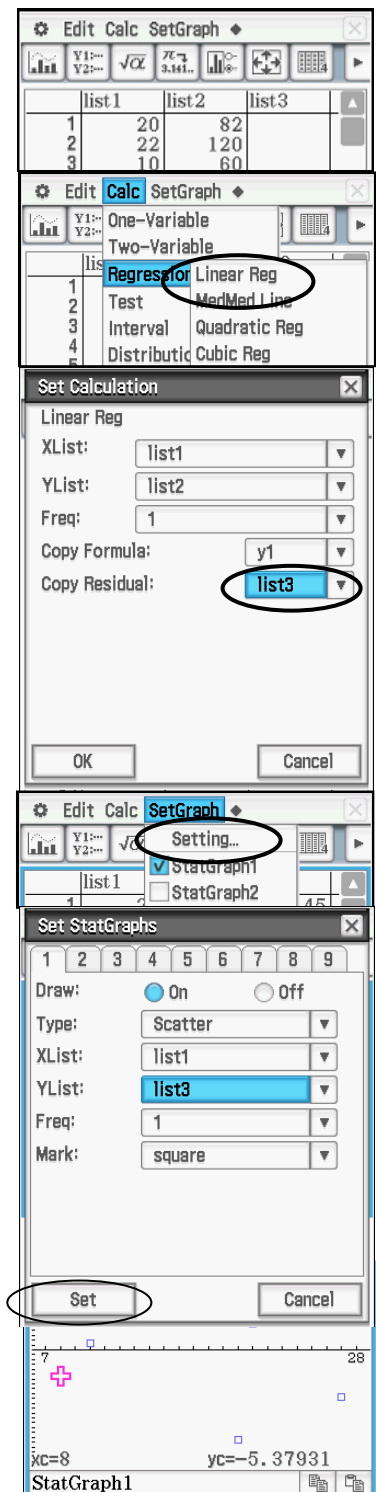
YList to list3

Set

Click on the graph icon 

Click on the graph

Analysis...Trace  and cursor along to find the values of the residuals



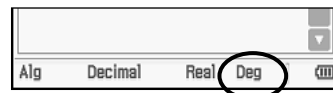
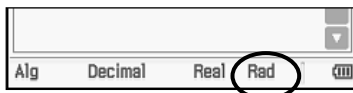
TRIGONOMETRY



BEWARE! Before attempting any geometry question in this course you should always check that the calculator is in DEGREES (Deg) mode. Click on Rad or Grad until you get Deg.

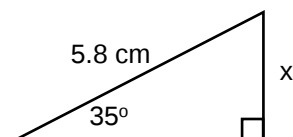
Click on

Rad (or **Grad**) and click until you get **Deg**



FINDING A SIDE CASE

Use trigonometry to find x.

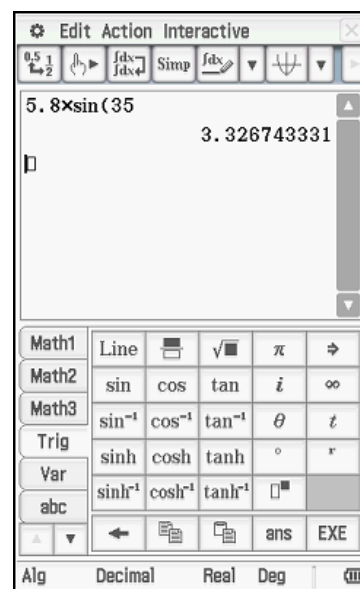


$$\sin 35 = \frac{x}{5.8}$$

$$x = 5.8 \times \sin 35$$

Main

5.8 × sin 35



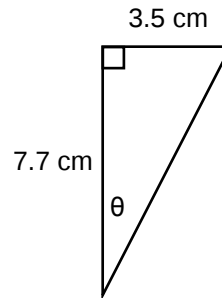
Answer: x = 3.32

(If you got 3.03, your calculator was on Grad and if you got 2.48 your calculator Rad(ians))

FINDING AN ANGLE CASE

Find θ

$$\tan \theta = \frac{3.5}{7.7}$$



Main

Keyboard **TRIG** $\tan^{-1}$ 3.5 $\div$ 7.7

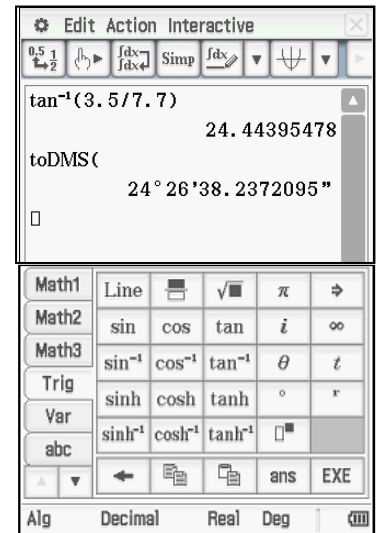
EXE

Answer: $\theta = 24.44^\circ$

To change answer to DMS

Math1 **toDMS** **EXE**

$$\theta = 24^\circ 27'$$



GREAT CIRCLE DISTANCES

When entering the great circle $\cos \theta$ formula on the main screen, the rotate facility enables you to see all of your calculator entries.

Find the distance in nautical miles between Cairo (30°N , 31°E) and Brisbane (28°S , 153°E).

$$\cos \theta = \sin(\text{lat } P) \sin(\text{lat } Q) + \cos(\text{lat } P) \cos(\text{lat } Q) \cos(\text{long diff})$$

$$\cos \theta = \sin(30) \sin(-28) + \cos(30) \cos(-28) \cos(122)$$

Shift **TRIG**

$$\sin(30) \times \sin(-28) + \cos(30) \times \cos(-28) \times \cos(122) \quad \text{EXE}$$

$$= -0.6399$$

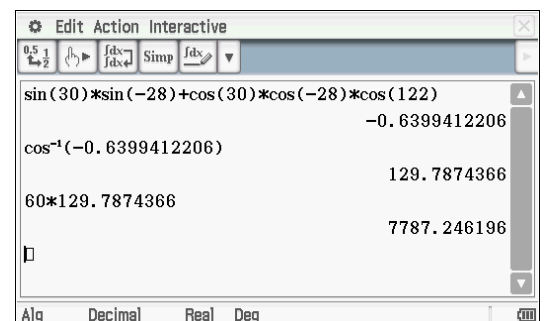
$$\text{Math1 } \cos^{-1} \theta$$

$$\theta = 129.7874366$$

$$D = 60 \theta$$

$$60 \times 129.7874366 \quad \text{EXE}$$

Answer: $D = 7787 \text{ NM}$



SEQUENCES AND SERIES

THE ARITHMETIC SEQUENCE

For the sequence 5, 9, 13, 17,

- Generate the first 50 terms of the sequence.
- Find the sum of this sequence to 20 terms.

- $a = 5$ and $d = 4$ Sequence rule: $T_n = a + (n - 1)d$
 $T_n = 5 + (n - 1)4$ $T_n = 4n + 1$

Menu.. Sequence 

Select **Explicit**

Enter the rule $T_n = 4n + 1$ (use n button)

Select the diamond icon 

To show the sum display

Σ display on

To see the first 50 terms of the sequence

Select 

On new menu bar select 

Sequence Table Input

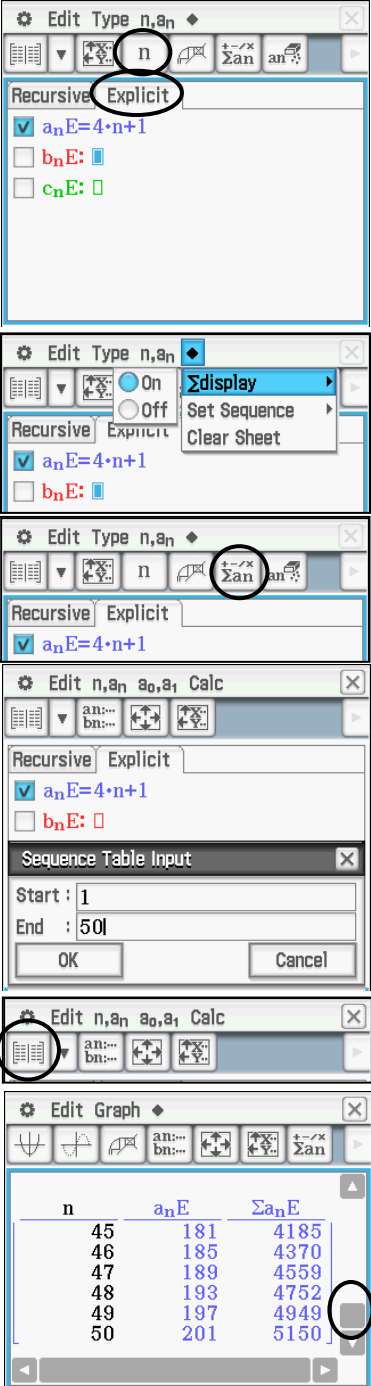
Start: 1

End: 50 OK

- Select  to see the sequence and the sum to n

Use the right slider bar or  to get to the sum of the first 50 terms =

Sum of the first 20 terms = 860



n	$a_n E$	$\Sigma a_n E$
45	181	4185
46	185	4370
47	189	4559
48	193	4752
49	197	4949
50	201	5150

THE ARITHMETIC SEQUENCE

The 12th term of an arithmetic sequence is 28. The 18th term is 46. Find the 31st term.

$$T_{12} = a + 11d = 28$$

$$T_{17} = a + 17d = 46$$

Menu...Main $\sqrt{x}$

Keyboard Math1

abc

Enter $a + 11d$ $\boxed{=}$ 28

∇

Enter $a + 17d$ $\boxed{=}$ 46

$\blacktriangleright$

a, d $\boxed{\text{EXE}}$

$a = -5$ and $d = 3$

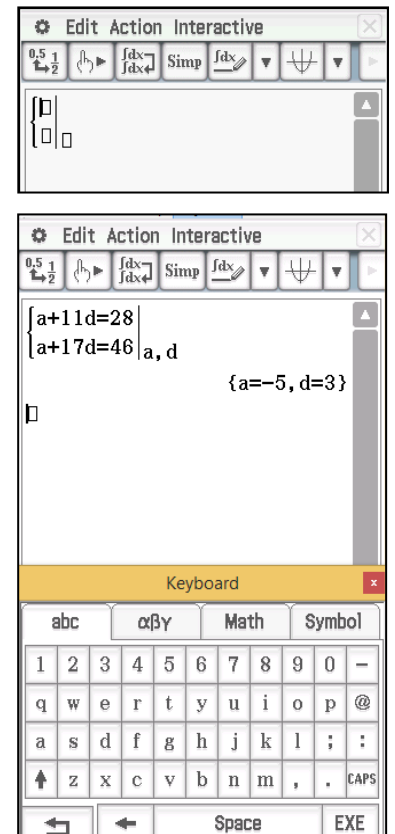
$$\therefore T_n = -5 + (n - 1) 3$$

$$T_n = 3n - 8$$

The 31st term can then be found

$$T_{31} = 3n - 8 = -31 \times 3 - 8$$

$$T_{31} = 85$$



THE GEOMETRIC SEQUENCE

For the sequence 5, 15, 45, 135,.....

- Find the rule of the sequence.
- Use the rule to find the 10th term of the sequence.
- Find the sum of this sequence to 10 terms.

$$(a) \quad \frac{T_2}{T_1} = \frac{15}{5} = 3 \quad \therefore r=3$$

Sequence rule: $T_n = 5 \times 3^{(n-1)}$

- Menu.. Sequence 

Select **Explicit**

Enter the rule $T_n = 5 \times 3^{(n-1)}$ (use n button)

Select the diamond icon 

To show the sum display

Σ display on

To see the first 50 terms of the sequence

Select 

On new menu bar select 

Sequence Table Input

Start: 1

End: 50 OK

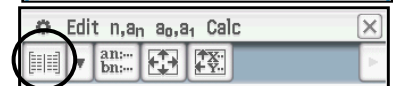
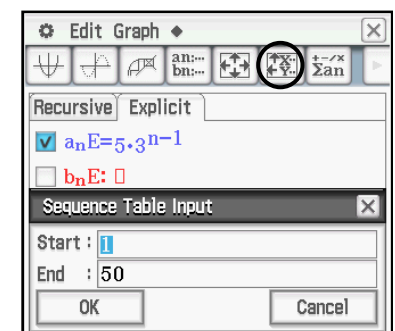
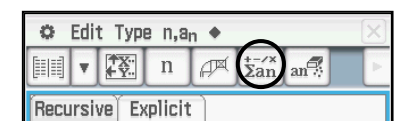
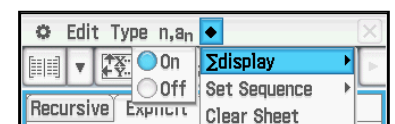
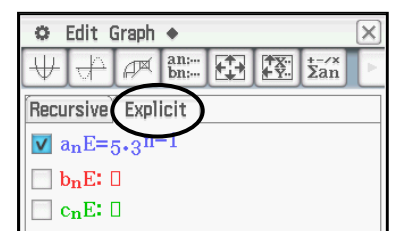
(make sure the difference equation is ticked)

- Select  to see the sequence and the sum to n

Use the right slider bar or  to get to the sum of the first 50 terms

The 10th term is 98 415

- Sum of the first 10 terms = 147 620



$a_nE=5 \cdot 3^{(n-1)}$		
n	a_nE	Σa_nE
7	3645	5465
8	10935	16400
9	32805	49205
10	98415	147620
11	295245	442865
12	885735	1.3E+6

98415

Deg Real

THE GEOMETRIC SEQUENCE

The fourth term of a geometric 192. The 8th term is 49 152. Find the 10th term.

$$T_4 = ar^3 = 192$$

$$T_8 = ar^7 = 49\,152$$

Menu...Main 

Keyboard Math1

abc

Enter a x r ^ 3  192



Enter a x r ^ 7  49152



a , r 

a = 3 and r = 4

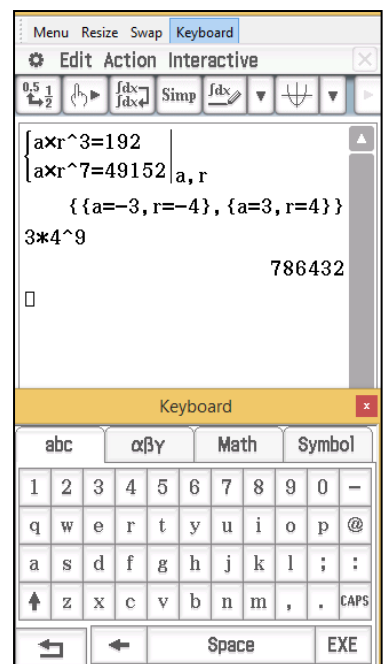
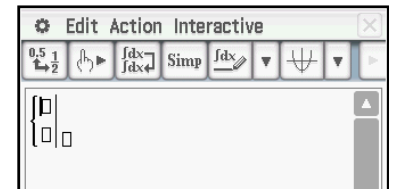
$$\therefore T_n = 3 \times (4)^{n-1}$$

The 10th term can then be found

$$T_{10} = 3 \times (4)^9$$

$$T_{10} = 3 \times 4^9$$

$$T_{10} = 786\,432$$



GROWTH AND DECAY

ARITHMETIC SEQUENCE GRAPHS

Plot a graph for the first 10 terms of the arithmetic sequence: $T_n = 30 + (n - 1)5$

Menu.. Sequence 

Select **Explicit**

Enter the rule $30 + (n - 1)5$

To see the first 10 terms of the sequence

Select 

On new menu bar select 

Sequence Table Input

Start: 1

End: 10 OK

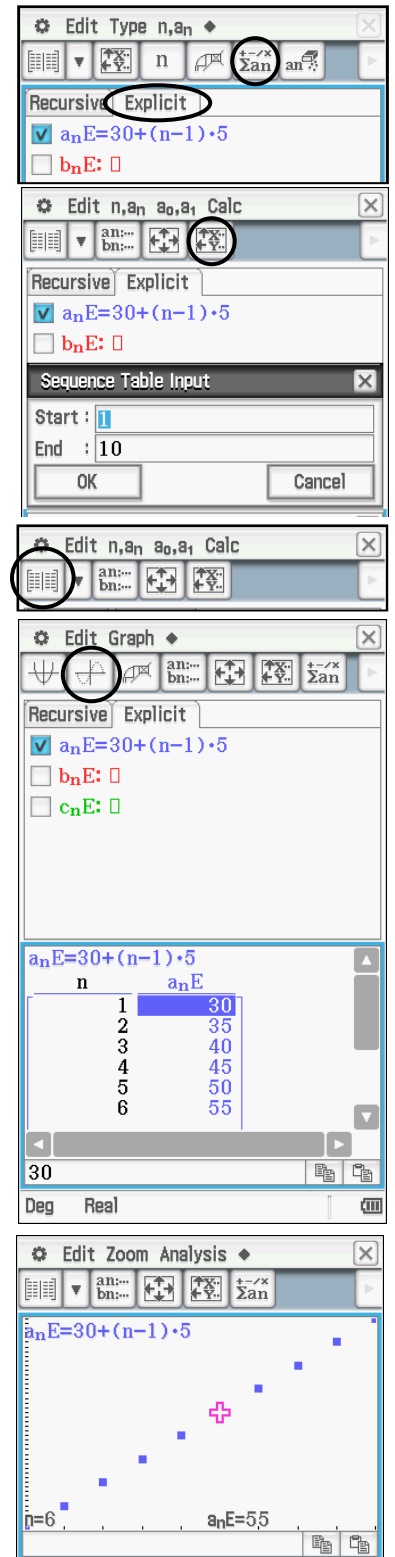
(make sure the difference equation is ticked)

Select  to see the sequence

Whilst in the sequence window, select 

Zoom.. Auto if the points are not on the screen.

Analysis...Trace along the points as required.



GROWTH AND DECAY

GEOMETRIC SEQUENCE GRAPHS

Plot a graph for the first 6 terms of the arithmetic sequence: $T_n = 10(1.6)^{n-1}$

Menu.. Sequence 

Select **Explicit**

Enter the rule $10 \times 1.6^{(n-1)}$

To see the first 6 terms of the sequence

Select 

On new menu bar select 

Sequence Table Input

Start: 1

End: 6 OK

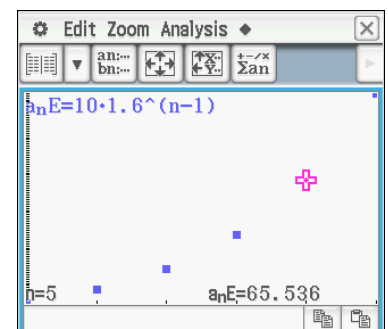
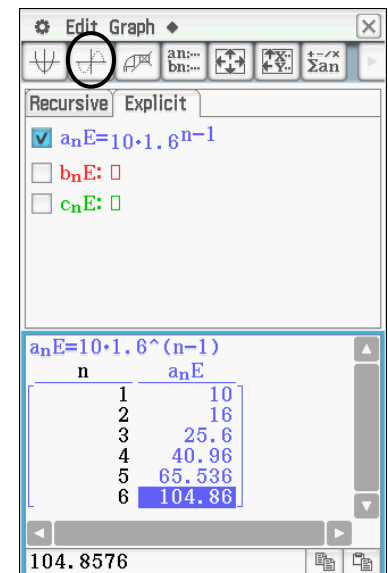
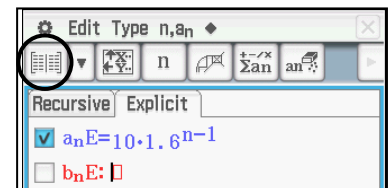
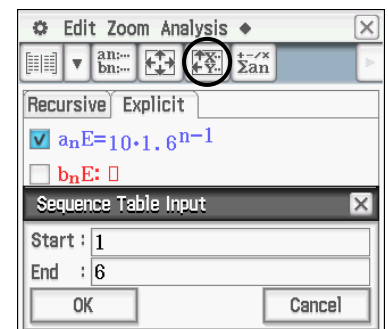
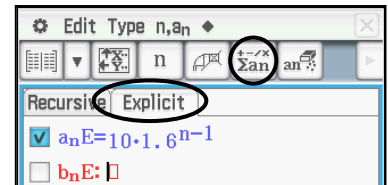
(make sure the difference equation is ticked)

Select  to see the sequence

Whilst in the sequence window, select 

Zoom.. Auto if the points are not on the screen.

Analysis...Trace along the points as required.



DIFFERENCE EQUATIONS

- (a) Generate the first six terms of the sequence, $T_{n+1} = T_n + 3$, where $T_0 = 4$

Menu.. Sequence 

Select Recursive and 

Enter the rule $a_{n+1} = a_n + 3$  $a_0 = 4$

To see the first 6 terms of the sequence

Select 

On new menu bar select 

Sequence Table Input

Start: 0

End: 5 OK

(make sure the difference equation is ticked)

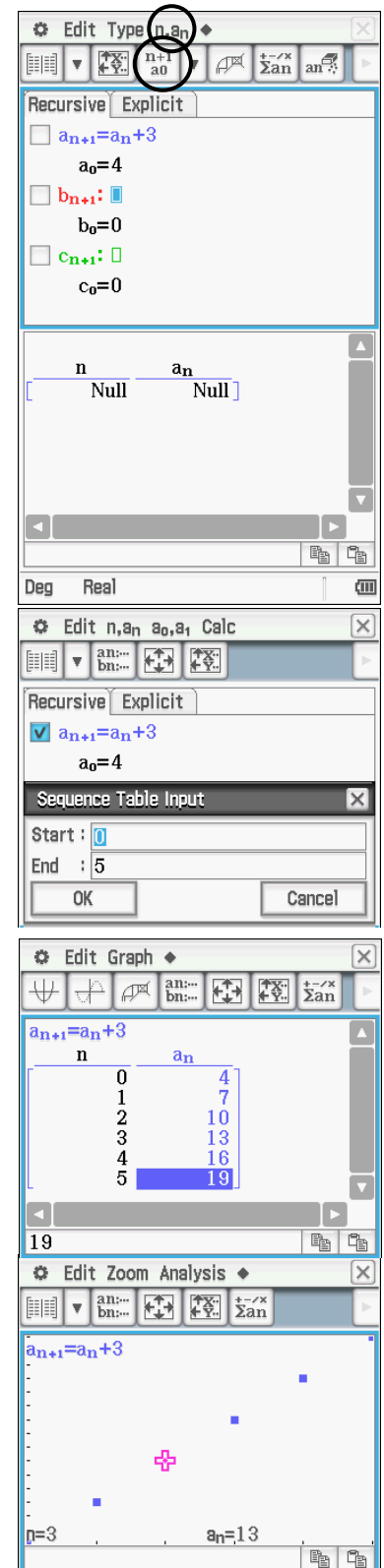
Select  to see the sequence

- (b) Graph the first six terms of this sequence.

Whilst in the sequence window, select 

Zoom.. Auto if the points are not on the screen.

Analysis...Trace along the points as required.



The first screenshot shows the 'Edit Type n, a_n' window. The 'Recursive' tab is selected. The rule $a_{n+1} = a_n + 3$ is entered, along with $a_0 = 4$. The 'Sequence Table Input' dialog is open, showing 'Start: 0' and 'End: 5'.

The second screenshot shows the 'Edit Graph' window. The sequence $a_{n+1} = a_n + 3$ is plotted. The table of values is displayed:

n	a_n
0	4
1	7
2	10
3	13
4	16
5	19

The third screenshot shows the 'Edit Zoom Analysis' window. The sequence $a_{n+1} = a_n + 3$ is plotted. The 'Analysis' menu is open, showing 'Trace' and 'Zoom' options. The current point is $n=3$ and $a_n=13$.

FINANCE



BEWARE!

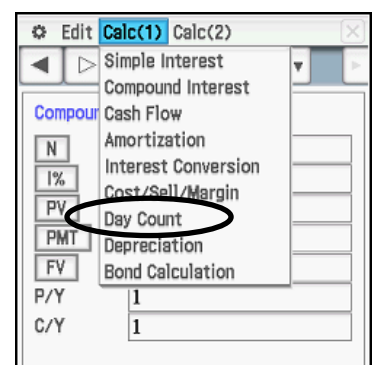
The calculator's default is for 360 days in a year. Before starting any simple interest calculations you **MUST** change this to **365 days**. This can be done by simply clicking on the number of days that appears on the bottom of the screen.

DAYS BETWEEN DATES

Find the number of days between April 15th and August 2nd 2014

Menu..Financial 

Calc(1)..Day Count



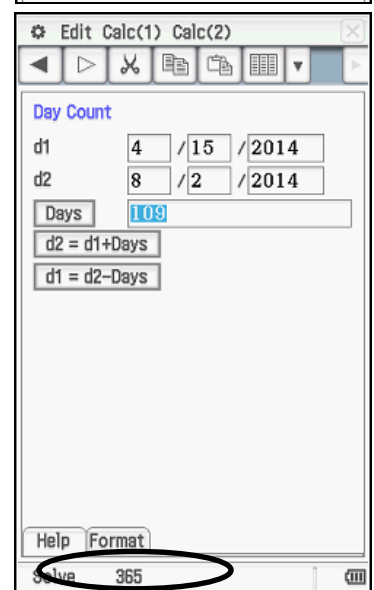
Enter dates in format mm/ dd/ yyyy

d1 4/15/2014

d2 8/2/2014

Make sure that you have 365 days in the year!

Days



Answer: 109 days

SIMPLE INTEREST

\$2 500 is invested at 8.5% pa interest for 45 days. Find:

- (a) The amount of interest earned.
- (b) The total in value of the investment.

Menu..Financial 

Calc(1)...Simple Interest

Set:

Days: 45

I%: 8.5

I%: 9

PV: 2500

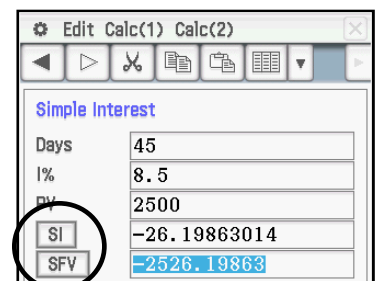
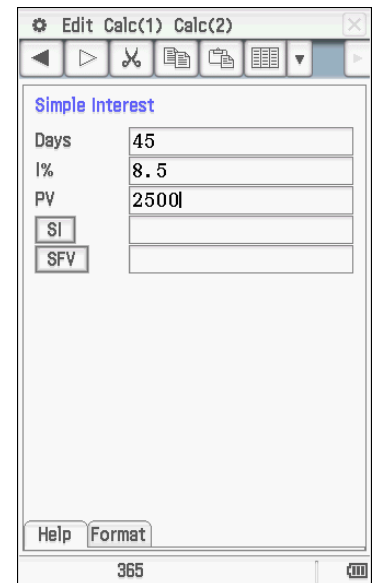
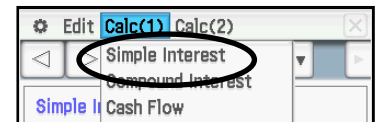
SI for simple interest

SFV for total of investment

Check that 365 days is being used!

(a) SI = \$26.20

(b) SFV = total amount in account = 2526.20



COMPOUND INTEREST

COMPOUND INTEREST (FIND A)

Find the amount in the account if \$ 1 000 is invested for 5 years at an annual rate of interest of 6.5% with interest added every month.

Menu..Financial 

Calc(1)...Compound interest

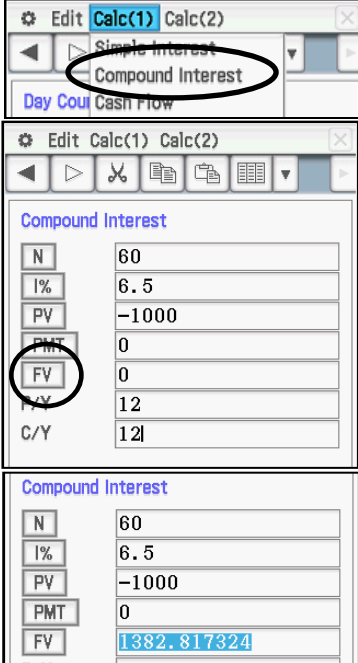
Check that 365 days is being used!

Set:

N: 5×12
I%: 6.5
PV:  1 000
PMT: 0
FV: set as 0
P/Y: 12
C/Y: 12

Click on FV

Answer \$1 382.82 will be in the account after 5 years.



Compound Interest	
N	60
I%	6.5
PV	-1000
PMT	0
FV	1382.817324
P/Y	12
C/Y	12

COMPOUND INTEREST (FIND I)

At what annual interest rate, compounded quarterly will a principal of \$900 grow into \$1 500 over 7 years?

Menu..Financial 

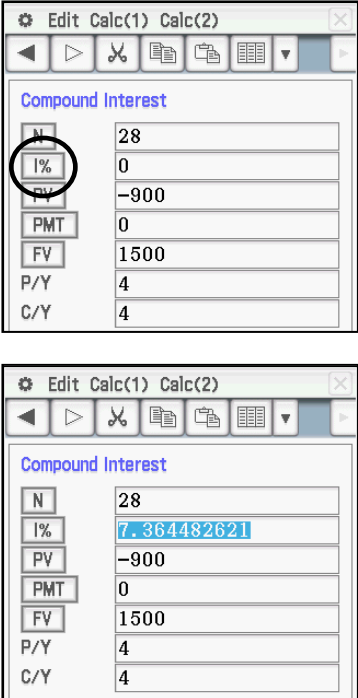
Calc (1)...Compound interest

Set:

N: 7×4
I%: set as 0
PV:  900
PMT: 0
FV: 1 500
P/Y: 4
C/Y: 4

Click on I

Answer: I% = 7.36 p.a.



Compound Interest	
N	28
I%	7.364482621
PV	-900
PMT	0
FV	1500
P/Y	4
C/Y	4

DEPRECIATION (REDUCING BALANCE) (FIND V (FV))

The Financial Solver can be used to work examples of reducing balance depreciation. Remember to enter both the interest rate and the present value of the item as negatives.

Find the value of a \$25 000 vehicle after 6 years of depreciation at an annual rate of 15%.

Menu..Financial 

Calc(1)...Compound interest

Set:

N: 6

I%:  15

PV:  25 000

PMT: 0

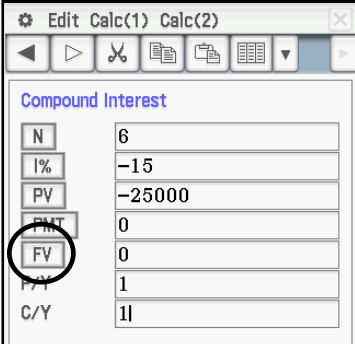
FV: set as 0

P/Y: 1

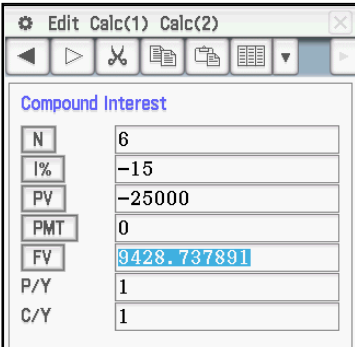
C/Y: 1

Click on FV

Answer: Value of vehicle will be \$9 428.74



Compound Interest	
N	6
I%	-15
PV	-25000
PMT	0
FV	0
P/Y	1
C/Y	1



Compound Interest	
N	6
I%	-15
PV	-25000
PMT	0
FV	9428.737891
P/Y	1
C/Y	1

DEPRECIATION (REDUCING BALANCE) (FIND n)

How long would it take for a \$3 000 item to depreciate to value \$100 at 25% pa depreciation (based on reduced balance)?

Menu..Financial 

Calc(1)...Compound interest

Set:

N: set as 0

I%:  25

PV:  3 000

PMT: 0

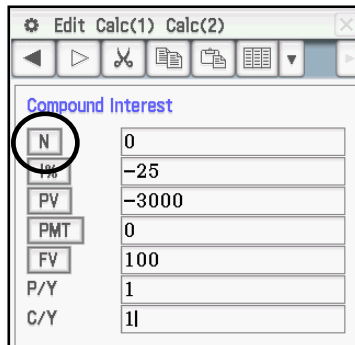
FV: 100

P/Y: 1

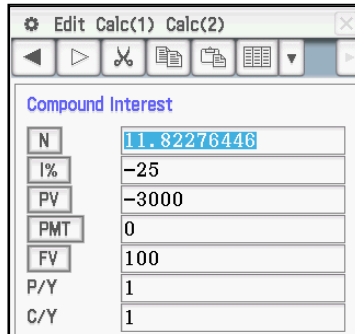
C/Y: 1

Click on N

Answer: The time to reach this figure will be 11.82 years or approximately 12 years.



Compound Interest	
N	0
I%	-25
PV	-3000
PMT	0
FV	100
P/Y	1
C/Y	1



Compound Interest	
N	11.82276446
I%	-25
PV	-3000
PMT	0
FV	100
P/Y	1
C/Y	1

INFLATION

Find the value of a coin collection currently valued at \$380 after 20 years of inflation at 6% pa.

Menu..Financial 

Calc(1)...Compound interest

Set:

N: 20

I%: 6

PV:  380

PMT: 0

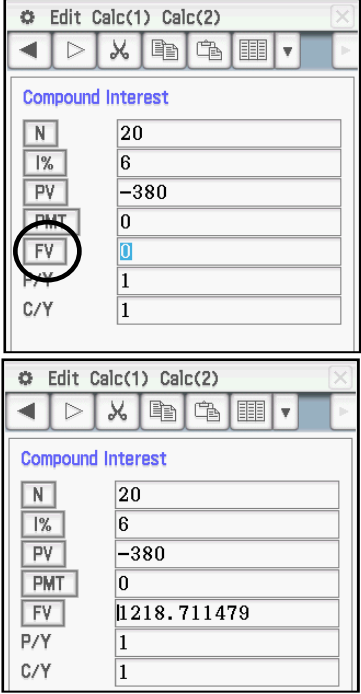
FV: set as 0

P/Y: 1

C/Y: 1

Click on FV

Answer: The coins will be worth \$1 218.71



Compound Interest	
N	20
I%	6
PV	-380
PMT	0
FV	0
P/Y	1
C/Y	1

Compound Interest	
N	20
I%	6
PV	-380
PMT	0
FV	1218.711479
P/Y	1
C/Y	1

ANNUITIES IN ADVANCE (FIND F)

Brian deposits \$ 500 every quarter into an account which pays 14 % p.a. (nominal) compound interest adjusted quarterly. How much has he saved over an 18 month period? (i.e. 6 periods)

We use the Financial Solver for annuities. In this case we have a regular installment of – \$500.

Menu..Financial 

Calc(1)...Compound interest

Set:

N: 6
I%: 14
PV: 0
PMT:  500
FV: set as 0
P/Y: 4
C/Y: 4

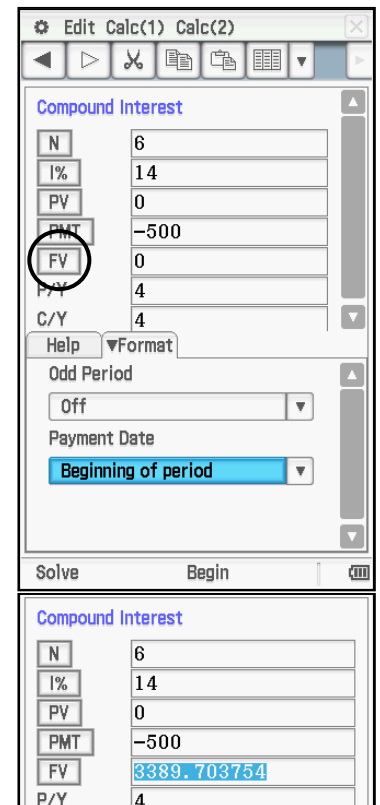
Set:

Odd period: **Off**

Payment period: **Beginning of period**

Click on FV

Answer: He has saved up \$ 3 389.70



Compound Interest	
N	6
I%	14
PV	0
PMT	-500
FV	0
P/Y	4
C/Y	4

Odd Period: Off
Payment Date: Beginning of period

Compound Interest	
N	6
I%	14
PV	0
PMT	-500
FV	3389.703754
P/Y	4

ANNUITIES IN ADVANCE (FIND N)

Janice wishes to save \$ 20 000 so that she has a deposit that she can use when purchasing a home. She deposits \$ 240 into an account every month, into an account which pays 14 % pa. (nominal) adjusted monthly. How long will it take her to reach her savings target?

Menu..Financial 

Calc(1)...Compound interest

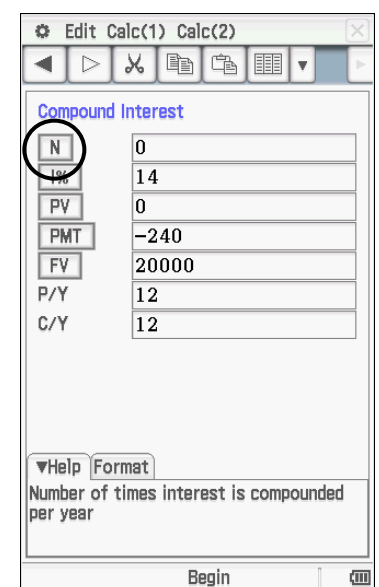
Set:

N: set as 0
I%: 14
PV: 0
PMT:  240
FV: 20 000
P/Y: 12
C/Y: 12

Set: Odd period: **Off** Payment period: **Beginning of period**

Click on N

Answer: N = 58.06 or 4 years and 10.06 months.



Compound Interest	
N	0
I%	14
PV	0
PMT	-240
FV	20000
P/Y	12
C/Y	12

Number of times interest is compounded per year

Compound Interest	
N	58.0612105
I%	14
PV	0
PMT	-240
FV	20000

ANNUITIES IN ARREARS (LOANS - FIND R AND P)

A personal loan of \$25 000 is repaid over 20 years in fortnightly installments at an annual interest rate of 13 %. Find:

- (a) The size of the repayments.
- (b) How much was owed after making 4 years of repayments.

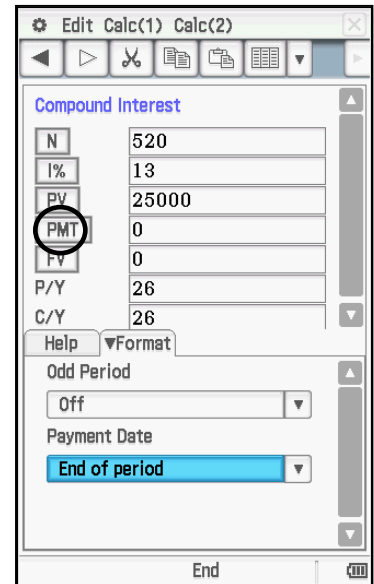
Menu..Financial  Calc(1)...Compound interest

Set:

N: 20×26
 I%: 13
 PV: 25 000
 PMT: set as 0
 FV: 0
 P/Y: 26
 C/Y: 26

Set: Odd period: **Off**

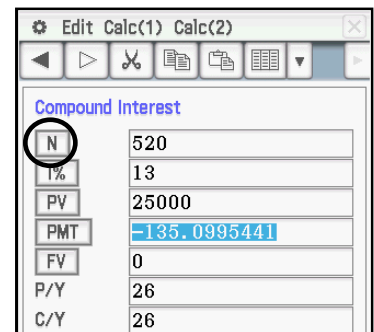
Payment period: **End** of period



Compound Interest	
N	520
I%	13
PV	25000
PMT	0
FV	0
P/Y	26
C/Y	26
Help Format	
Odd Period	
Off	
Payment Date	
End of period	

Click on PMT

Answer: (a) Repayment = \$135.10

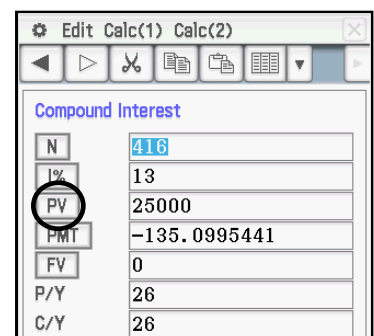


Compound Interest	
N	520
I%	13
PV	25000
PMT	-135.0995441
FV	0
P/Y	26
C/Y	26

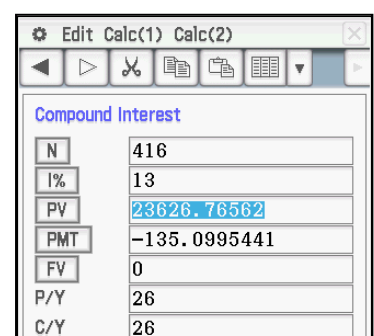
- (b) Keep the screen as it was from (a) and change N to show the number of repayments LEFT to go with $20 - 4 = 16$ years to go.

RESET N as $16 \times 26 = 416$ payments remaining

Click on PV



Compound Interest	
N	416
I%	13
PV	25000
PMT	-135.0995441
FV	0
P/Y	26
C/Y	26



Compound Interest	
N	416
I%	13
PV	23626.76562
PMT	-135.0995441
FV	0
P/Y	26
C/Y	26

Answer (b) Amount owing = \$ 23 626.77

EFFECTIVE AND NONIMAL INTEREST RATES

EFFECTIVE INTEREST RATES

Find the effective annual interest rate on an account which pays 8% pa annually compounded quarterly.

Menu..Financial 

Calc(1)....interest conversion

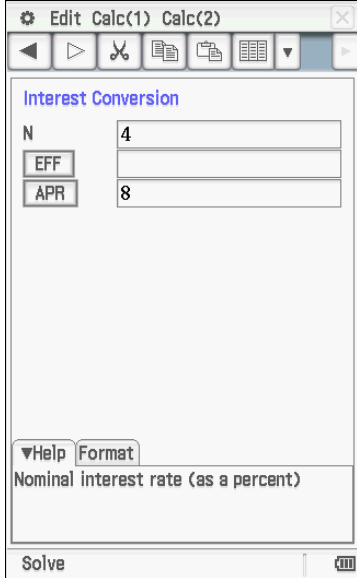
EFF is the Effective interest rate as a % and APR is the Nominal interest rate as a %.

Set:

N: 4

APR: 8

Click on EFF



Interest Conversion

N: 4

EFF:

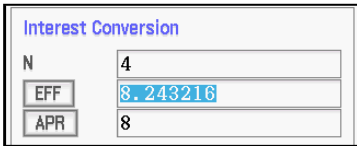
APR: 8

▼Help Format

Nominal interest rate (as a percent)

Solve

Effective annual interest rate is 8.24%



Interest Conversion

N: 4

EFF: 8.243216

APR: 8

▼Help Format

Effective interest rate (as a percent)

Solve

NOMINAL INTEREST RATES

Find the nominal interest per month on an account which offers an annual effective rate of 13% (compounded monthly).

Menu..Financial 

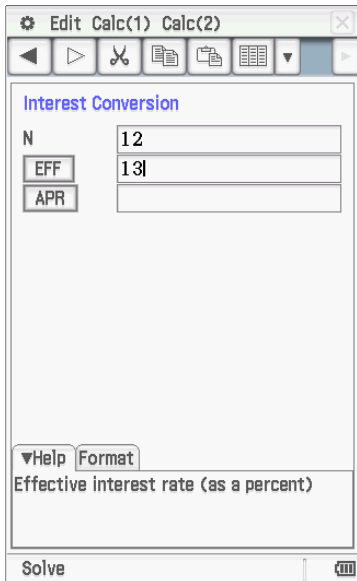
Calc(1)...Compound interest..Interest conversion

Set:

N: 12

EFF: 13

Click on APR



Interest Conversion

N: 12

EFF: 13

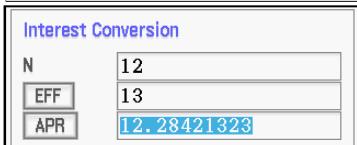
APR:

▼Help Format

Effective interest rate (as a percent)

Solve

Nominal interest rate is 12.28%



Interest Conversion

N: 12

EFF: 13

APR: 12.28421323

▼Help Format

Effective interest rate (as a percent)

Solve