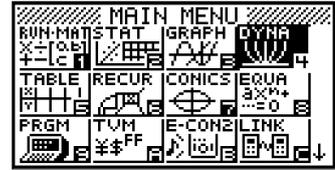# Dynamic graphing.

This resource was written by Derek Smith with the support of CASIO New Zealand.
It may be freely distributed but remains the intellectual property of the author and CASIO.

Select **DYNA** mode from the **MAIN MENU** by using the arrow keys to highlight the **DYNA** icon or pressing 4.

To see what happens to the graphs if one of the co-efficients is changed in the equation.

Example: Graph dynamically y = Ax + 1 when A varies from -5 to 5.

Firstly, change the **V-Window** (Graph Viewing Window) [**SHIFT**] [**F3**] to set up the x- and y- axes for the graph that you want to see.

The **ST**an**D**ard SETTING should be sufficient, press [**F3**] for this setting.
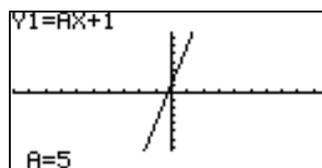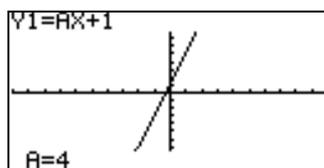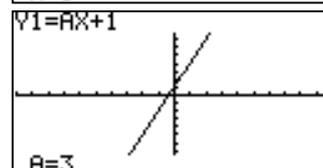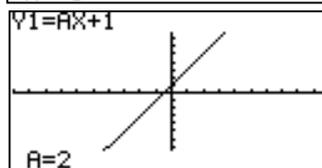Then [**EXIT**] to return to the previous window.
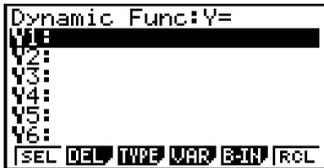
| **Enter the function** | | **F4 for VAR**iation | **F2 for SET** |

Then [**EXIT**] to return to the previous window.

Now, press [**F5**] for the calculator to **AUTO**matically set up the dynamic graph. You will be greeted with a window like what is shown here:
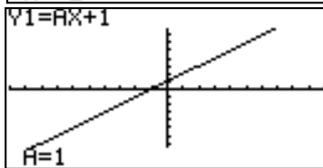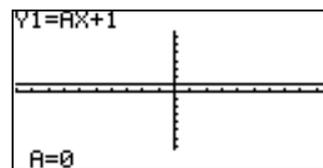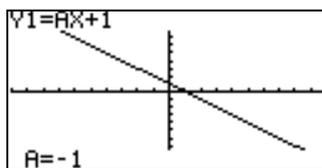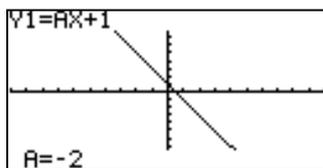
The graphs will move from one to the other automatically moving through the values of A from 'Start' to 'End' taking the 'Step' length between each.

To stop the 'animation' press [**EXE**] once – this will 'break' the cycle and return you to the window displayed below:

```
Y1=AX+1
Dynamic Setting
A
  Start:-5
  End  :5
  Step :1

 ⅢD   >    ▸   ≫  STO
```
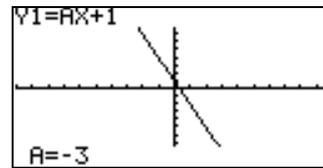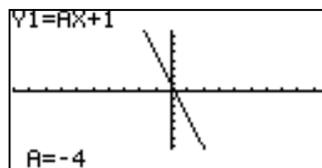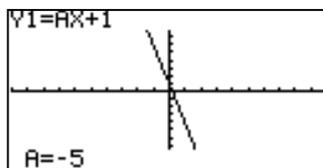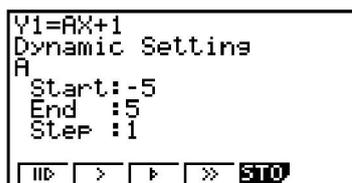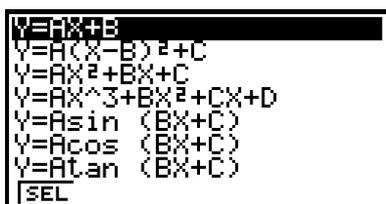
Here you can alter the speed of the animation.

>   [**F1**] is Stop and Go every time you press [**EXE**].
>   [**F2**] is 'go slow' auto
>   [**F3**] is 'go fast' auto
>   [**F4**] is 'go very fast' auto
>   [**F5**] is **STO**re this graph

Note: There is an 'item bank' of different functions that are available, [**F5**] for **B-IN.**

```
Y=AX+B
Y=A(X-B)²+C
Y=AX²+BX+C
Y=AX^3+BX²+CX+D
Y=Asin (BX+C)
Y=Acos (BX+C)
Y=Atan (BX+C)
SEL
```

Select the one you require by highlighting it and press [**EXE**].

For example: Y = Asin (BX+C)

Change the **V-Window to TRIG**onometry [**F3**]. Alter this set up of the x- and y- axes for the graph that you want to see.

Decide on whether you are changing either A, B or C.
[N.B. You can only change on co-efficient at a time.]
Here A = Amplitude, B = Related to the cycle length and C = Horizontal shift.

```
View Window
Xmin  :-9.4247779
  max  :9.42477796
  scale:1.57079632
  dot  :0.14959965
Ymin  :-1.6
  max  :1.6
INIT TRIG STD STO RCL
```

```
View Window
  max  :9.42477796
  scale:1.57079632
  dot  :0.14959965
Ymin  :-6
  max  :6
  scale:0.5
INIT TRIG STD STO RCL
```

```
Dynamic Func:Y=
Y1❚Asin (2X+π÷2)
Y2
Y3:
Y4:
Y5:
Y6:
SEL DEL TYPE VAR B-IN RCL
```

```
Y1=Asin (2X+π÷2)
D:
   One Moment Please

   ████████▯▯▯▯▯▯▯▯

SEL SET SPEED        DYNA
```

Now, view the **DYNA**mic graphs.

For further tips, more helpful information and software support visit our websites
www.casio.edu.monacocorp.co.nz or http://graphic-technologies.co.nz