

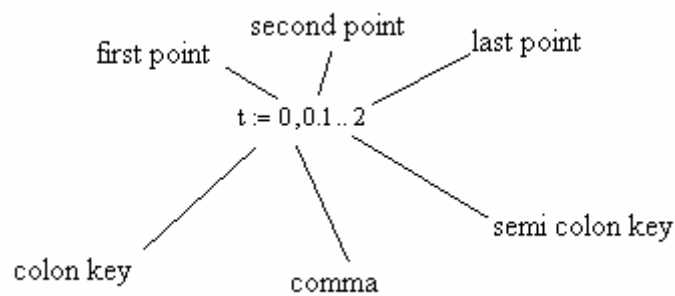
## USING MATHCAD TO PLOT GRAPHS

Suppose you wish to plot  $v = 2 \sin(\omega t)$

You wish to plot  $v$  vertically against time  $t$  horizontally.

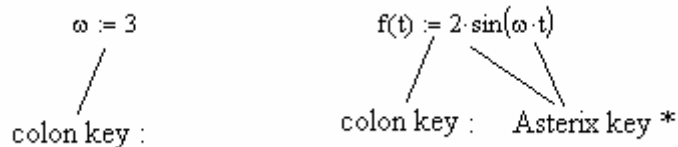
### STEP 1

Decide the starting and finishing values of time for the plot and the intervals at which you wish to plot your points. Enter the following.



### STEP 2

Instead of using the symbol  $v$  we have to recognise that  $v$  is a function of time  $t$  and so we write  $f(t) = 2 \sin(\omega t)$ . First we must write down the value of any constants such as  $\omega$ .



### STEP 3

Place the cursor at a suitable point and type  $f(t) =$   
As soon as you enter  $=$  the table of values should appear.

f(t) = use the = key

0
0.591
1.129
1.567
1.864
1.995
1.948
1.726
1.351
0.855
0.282
-0.315
-0.885
-1.376
-1.743
-1.955

#### STEP 4

Place your cursor where you want your graph to appear. On the graph tool bar click x – y plot command and the plot frame will appear. On the horizontal axis enter t and on the vertical axis enter f(t)

t := 0,0.1..2

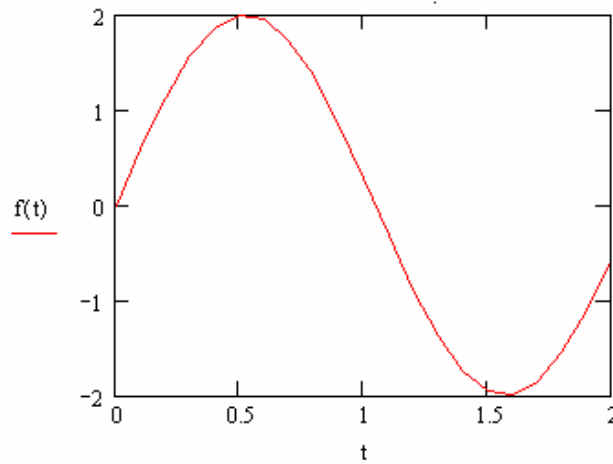
$\omega := 3$

$f(t) := 2 \cdot \sin(\omega \cdot t)$

f(t) =

0
0.591
1.129
1.567
1.864
1.995
1.948
1.726
1.351
0.855
0.282
-0.315
-0.885
-1.376
-1.743
-1.955

select this plot  
+



#### STEP 5

Click on the plot to highlight it and then on the menu bar click on format graph then x – y plot and obtain the following window. Click on grid lines or any other thing that you want such as labels and plot colours to produce your plot in its final form.

