

Evaluating Functions on the TI-86

We can evaluate a function for various values of x without having to reenter the entire function each time.

Before you begin, it's a good idea to clear everything from the home screen and the graphing screen.

At the home screen, press **clear** until all entries are gone.

To cleared stored functions:

Graph

F1: y(x)=

Highlight a function then **F4: DelF**

Repeat until all have been removed.

Evaluate $f(x) = x^2 - 6$ for $x = -1, x = 3, x = 0, x = \frac{3}{4}$

From the home screen:

Graph

F1: y(x)=

Key in $x^2 - 6$ for y1

Exit

More

More

F1: Eval

The calculator will draw the graph.

You may have to change your viewing window. To get a standard viewing window

Exit

Graph

F3: Zoom

F4: ZSTD

Exit

More

More

F1: eval

Key in value for x

-1
Enter Gives an answer of -5 (the y value)

Exit
F1: Eval
3
Enter Gives an answer of 3

Exit
F1: Eval
0
Enter Gives an answer of -6

Exit
F1: eval
3 ÷ 4
Enter Gives an answer of -5.4375

There's another method to evaluate a function using the eval command.

From the home screen:

Graph
F1: y(x)=
Key in $x^2 - 6$ for y1
Exit back to the home screen

2nd Math
F5: Misc
More
F5: eval
-1
Enter Gives an answer of -5

F5: eval
3
Enter Gives an answer of 3

F5: eval
0
Enter Gives an answer of -6

F5: eval

(3 ÷ 4)

Be sure to put the fraction in parentheses. Otherwise, the calculator will evaluate the function at 3 and divide that answer by 4. **Beware: Order of Operations!!!!**

Enter

Gives an answer of -5.4375

To display this decimal answer as a fraction:

2nd Enter

Exit

F5: Misc

More

F1: >Frac

Enter

Gives -87/16 as answer.

There's a third method on the TI-86 that uses the **table command. The function must be keyed in for y1= as in the other methods:**

Graph

F1: y(x)=

Key in $x^2 - 6$ for y1

Then use the table command to set-up the table and evaluate the function.

TABLE

F2: TBLST

Arrow down to **Indpnt** (Stands for independent variable)

Highlight **Ask** (Ask allows you to enter the value for x where Auto provides all values beginning with the number on the first line - TblStart.

Enter

F1: TABLE

Key in value for x:

-1

Enter

Gives an answer of -5

3

Enter

Gives an answer of 3

0

Enter

Gives an answer of -6

$\frac{3}{4}$

Enter

Gives an answer of -5.4375