Evaluating Functions on the TI-85

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 **Clear**
Repeat until all have been removed.

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

From the home screen:

Graph
F1: y(x)=
(Clear previously saved functions)
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.

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
$(3 \div 4)$ 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.