Evaluating Functions on the TI-83+

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:
y(x)=
Highlight a function then **Clear**
Repeat until all have been removed.

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

y1=
(Clear previously saved functions)

Key in $x^2 - 6$ for y1
2nd Quit
Vars
Arrow over to **Y-Vars**
1:Function
1:Y1

Key in value for x putting it in parentheses

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

Vars
Arrow over to **Y-Vars**
1:Function
1:Y1
(3)
Enter   Gives an answer of 3

Vars
Arrow over to **Y-Vars**
1:Function
1:Y1
(0)
Enter   Gives an answer of -6

Vars
Arrow over to **Y-Vars**
1:Function
1:Y1
(3 ÷ 4 **)**
Enter   Gives an answer of -5.4375

All of these could be done at one time by entering the following:

Vars
Arrow over to **Y-Vars**
1:Function
1:Y1
(**2nd{ -1,3,0,** 3 ÷ 4 **2nd})**
Enter

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

From the home screen:

y1=
Key in $x^2 - 6$ for y1

Set the viewing window
Zoom
6:ZStandard

2nd Calc
1:Value
x= **-1**
Enter   Gives an answer of -5

2nd Calc
1:Value
x= **3**
Enter   Gives an answer of 3

2nd Calc
1:Value
x= **0**
Enter   Gives an answer of -6

2nd Calc
1:Value
x = 3 ÷ 4

Enter   Gives an answer of -5.4375

To display this decimal answer as a fraction:

2nd Quit (to return to the home screen)
Key in **-5.4375**
Math
1:Frac
Enter   Gives -87/16 as answer.