

Finding Values of a Function

Instructions for the TI-84 Plus

Example: For the function $f(x) = -3x^2 + 4x - 1$, find $f(-2)$.

Press $\boxed{Y=}$ to enter the function editor so that you may enter the expression $-3x^2 + 4x - 1$. The function editor should look like the one shown in Fig.1. If your function editor has any

functions in it, clear them out by moving the cursor to the function then press $\boxed{\text{CLEAR}}$. Repeat the process until the function editor is cleared out as in figure 1.

Fig.1

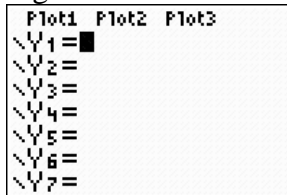
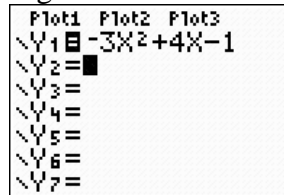


Fig.2



Enter the expression $-3x^2 + 4x - 1$ next to Y_1 by pressing $\boxed{(-)}$ $\boxed{3}$ $\boxed{X,T,\theta,n}$ $\boxed{.x^2}$ $\boxed{+}$ $\boxed{4}$ $\boxed{X,T,\theta,n}$ $\boxed{-}$ $\boxed{1}$ $\boxed{\text{ENTER}}$. The function editor should look like the one shown in

figure 2. To get out of the function editor and return to the home screen, press $\boxed{2\text{nd}}$ $\boxed{\text{MODE}}$.

We want to evaluate $f(-2)$. However, in the calculator, we called this function Y_1 , so we need to evaluate $Y_1(-2)$. Y_1 is a y-variable that is a function, so press $\boxed{\text{VAR}}$ to go into the

VARIABLES menu (as shown in figure 3), and press $\boxed{\text{)}}}$ to select the Y-VARIABLES menu (as shown in figure 4). Press $\boxed{\text{ENTER}}$ to select the FUNCTION menu (figure 5).

Fig.3

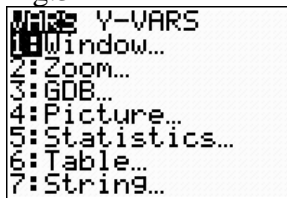


Fig.4

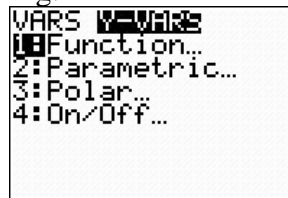


Fig.5



Press $\boxed{\text{ENTER}}$ to select Y_1 . Your screen should look like the one in figure 6. Next type in

$\boxed{(}$ $\boxed{(-)}$ $\boxed{2}$ $\boxed{)}$ resulting in figure 7. Press $\boxed{\text{ENTER}}$ to tell the calculator to evaluate the expression. This will result in the window in figure 8.

Fig.6

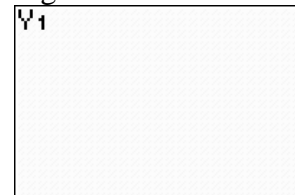
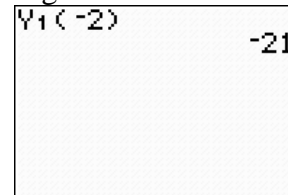


Fig.7



Fig.8



For the function $f(x) = -3x^2 + 4x - 1$, $f(-2) = -21$. In other words, when $x = -2$, $f(x)$ has a value of -21 . Another way to find the values of a function is to use the Table function in ASK mode. Refer to the help page *Creating a Table* for more information on this method.