

Making and Using Tables

College Algebra

Introduction

Using a table of values for a function is a good way to see overall trends while seeing exact values. With a calculator, you can generate a table of values quickly.

Steps for Making Tables on Texas Instruments Calculators

To make a table of values with a TI graphing calculator, do the following:

1. Rewrite the formula so that the independent variable is x and the dependent variable is y .
2. Press the $Y=$ button on the calculator and type the formula for Y_1 .
3. Press $2ND$ and $WINDOW$ to get to the $TBLSET$ menu.
4. Set the initial value for $TblStart$ and the skip in the independent variable as ΔTbl .
5. Press $2ND$ and $GRAPH$ to see the table.

Example 1

For the first, example, we will make a table of values for the function $B = \frac{6t-1}{5t+2}$ for $t = 3, 5, 7, \dots$

Solution

The first step is to rewrite the formula using x and y :

$$y = \frac{6x - 1}{5x + 2}$$

Notice that the values for the independent variable start at 3 and increase by 2. We will have to make that adjustment in the table settings.

The calculator steps are below. Please follow along with your calculator.

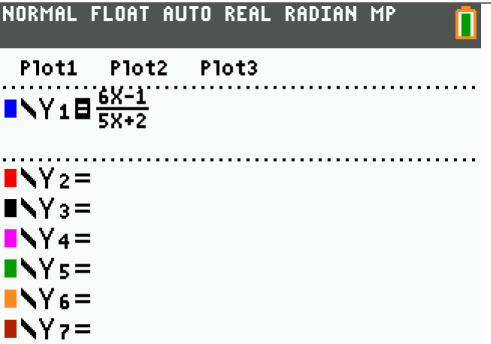
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The TI-84 Plus family outputs fractions whenever you use the fraction bar. We want decimals for this course. One option is to type the function just like with the TI-83 Plus. The other is to use a calculator function to convert to decimals. The steps are below.

Calculator Steps **TI-84 Plus CE**

“2ND” →
“Y=”

Go back to the Y= menu to edit the function.



NORMAL FLOAT AUTO REAL Radian MP


Plot1 Plot2 Plot3

$Y_1 = \frac{6X-1}{5X+2}$

$Y_2 =$
 $Y_3 =$
 $Y_4 =$
 $Y_5 =$
 $Y_6 =$
 $Y_7 =$

“MATH” →
2: ▶Dec

Converts the answers to decimals



NORMAL FLOAT AUTO REAL Radian MP

MATH NUM Cmplx PRob FRAC

1: ▶Frac
2: ▶Dec
3: 3
4: 3√(
5: *√
6: fMin(
7: fMax(
8: nDeriv(
9: ↓fnInt(
NORMAL FLOAT AUTO REAL Radian MP

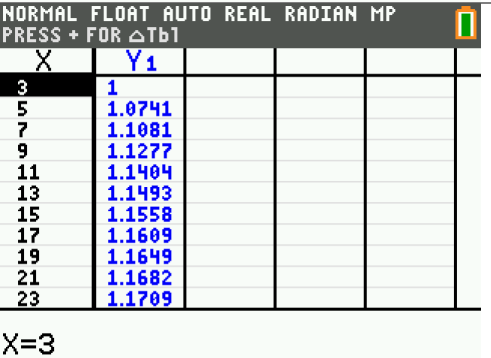
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$Y_1 = \frac{6X-1}{5X+2}$ ▶Dec

$Y_2 =$
 $Y_3 =$
 $Y_4 =$
 $Y_5 =$
 $Y_6 =$
 $Y_7 =$

“2ND” →
“GRAPH”

The table is now in decimals



NORMAL FLOAT AUTO REAL Radian MP
PRESS + FOR ΔTb1

X	Y1				
3	1				
5	1.0741				
7	1.1081				
9	1.1277				
11	1.1404				
13	1.1493				
15	1.1558				
17	1.1609				
19	1.1649				
21	1.1682				
23	1.1709				

X=3

Example 2

For our second example, we will create a table of values for $y = \sqrt{x} - \frac{x}{20}$ for $x = 0, 0.2, 0.4, \dots$

Solution

The process is very similar to the last problem. Follow along on your calculator.

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