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 Δ`Tbl`.
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 $t = 3, 5, 7, \ldots$.

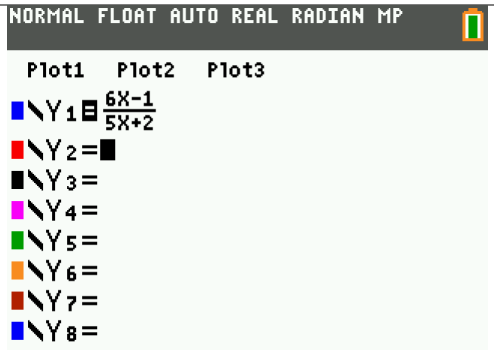
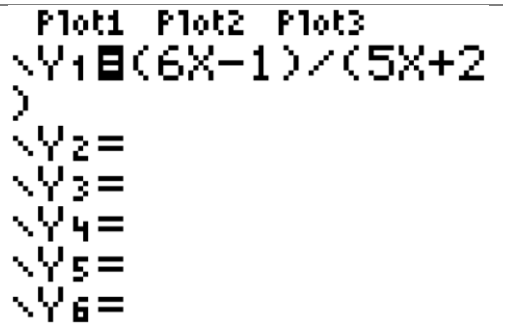
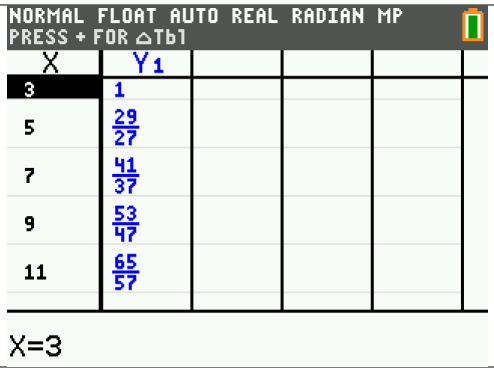
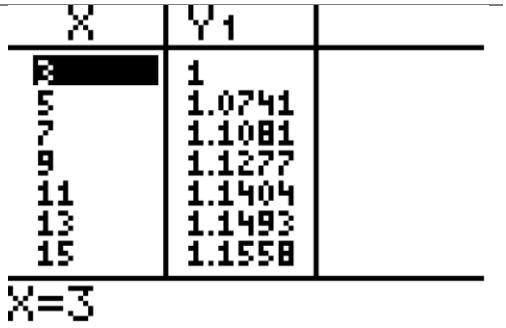
Solution

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

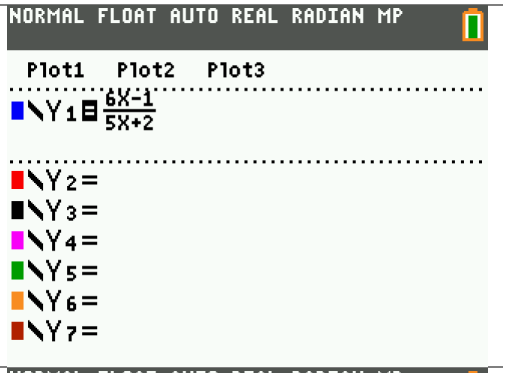
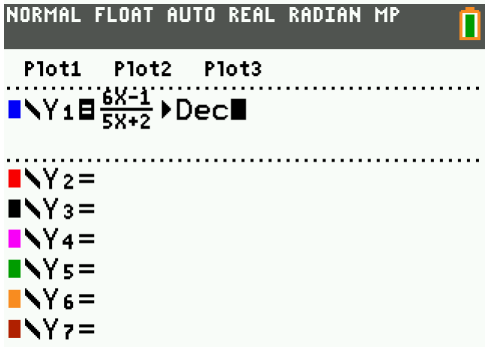
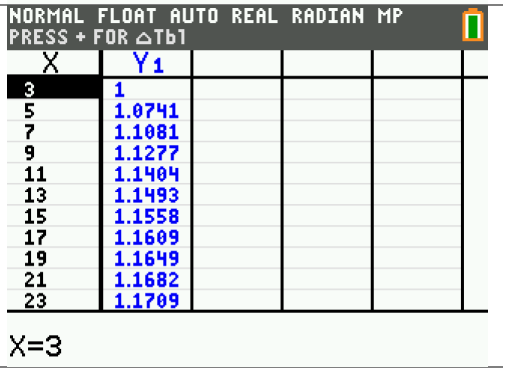
$$y = \frac{6x - 1}{5x + 2}$$

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.

Calculator Steps	TI-84 Plus CE	TI-83 Plus
"2ND" → "Y=" **TI-84 Plus uses "ALPHA" and "Y=" to enter fraction bar**		
"2ND" → "WINDOW" **Press down to access settings** **TblStart = 3** **ΔTbl = 2**		
"2ND" → "GRAPH"		

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.

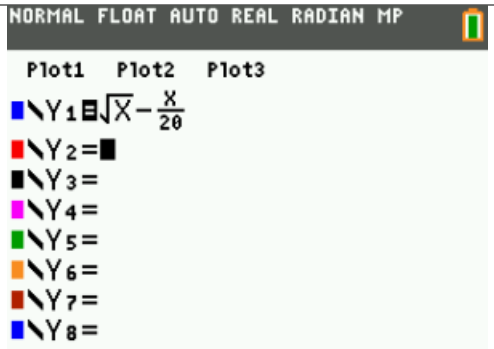
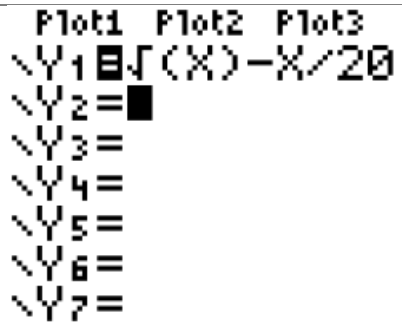
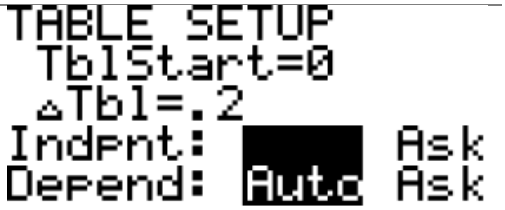
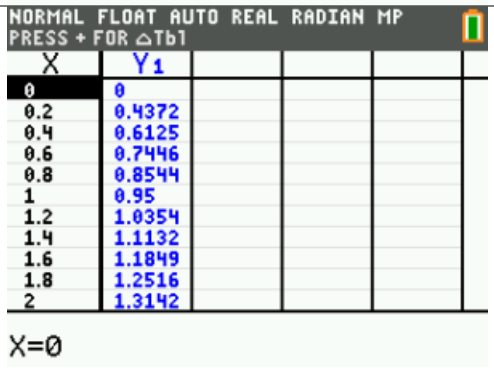
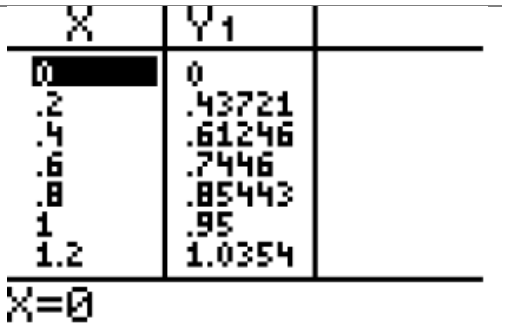
Calculator Steps	TI-84 Plus CE
"2ND" → "Y=" **Go back to the Y= menu to edit the function.**	
"MATH" → 2: ▶Dec **Converts the answers to decimals**	 
"2ND" → "GRAPH" **The table is now in decimals**	

Example 2

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

Solution

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

Calculator Steps	TI-84 Plus CE	TI-83 Plus
"2ND" → "Y=" **TI-84 Plus uses "ALPHA" and "Y=" to enter fraction bar**		
"2ND" → "WINDOW" **Press down to access settings** **TblStart = 0** **ΔTbl = 0.2**		
"2ND" → "GRAPH" **This time, the TI-84 converts answers to decimals due to the square root.**		

Next Up

Now that we know how to make tables of values, we'll talk about limiting values.