Using Tables of Values to Evaluate Expressions and Solve Equations on the TI 30xs
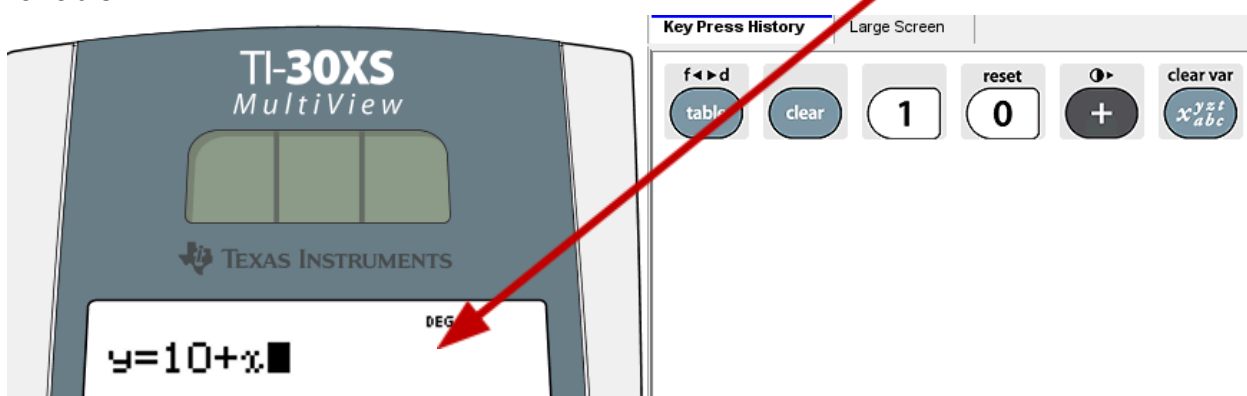
Given a function rule, you can create a table of values on the calculator using the table key.
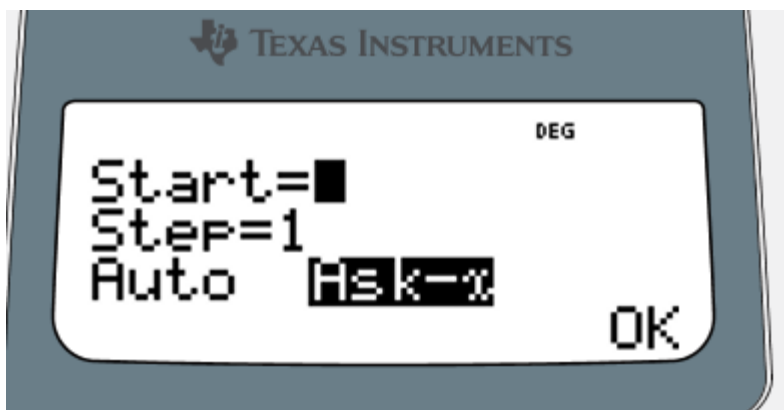
To Create a Table of Values

y=█

1. Press the table key. You will see y =.

2. Enter the function rule. Use the x_{abc}^{yzt} to represent the x variable. Press enter. Always let y represent the dependent and x represent the independent variable.

TI-**30XS**
MultiView

TEXAS INSTRUMENTS

DEG

y=10+x█

Key Press History   Large Screen

f◄►d   reset   ◑►   clear var

table   clear   1   0   + x_{abc}^{yzt}

TEXAS INSTRUMENTS

DEG

Start=█
Step=1
Auto   Ask=x

OK

3. You will see this screen
   Start is the value that at which you want to start the table. You would enter 5 if you want the table to start at 5.
   Step is how you want the table to increment. You would enter 2 if you want to count by twos.
   Auto will automatically populate the table.
   Ask will allow you to input specific values for x.
   Ok with generate the table.

4. Once OK is highlighted, press enter to see the table.

Examples: For all these examples we will use the rule y = 10 + x

1. A table that is automatically populated starting at 5 counting by 2s. Press enter after you enter a new value. You can also use the down arrow or the right arrow to move around the screen.
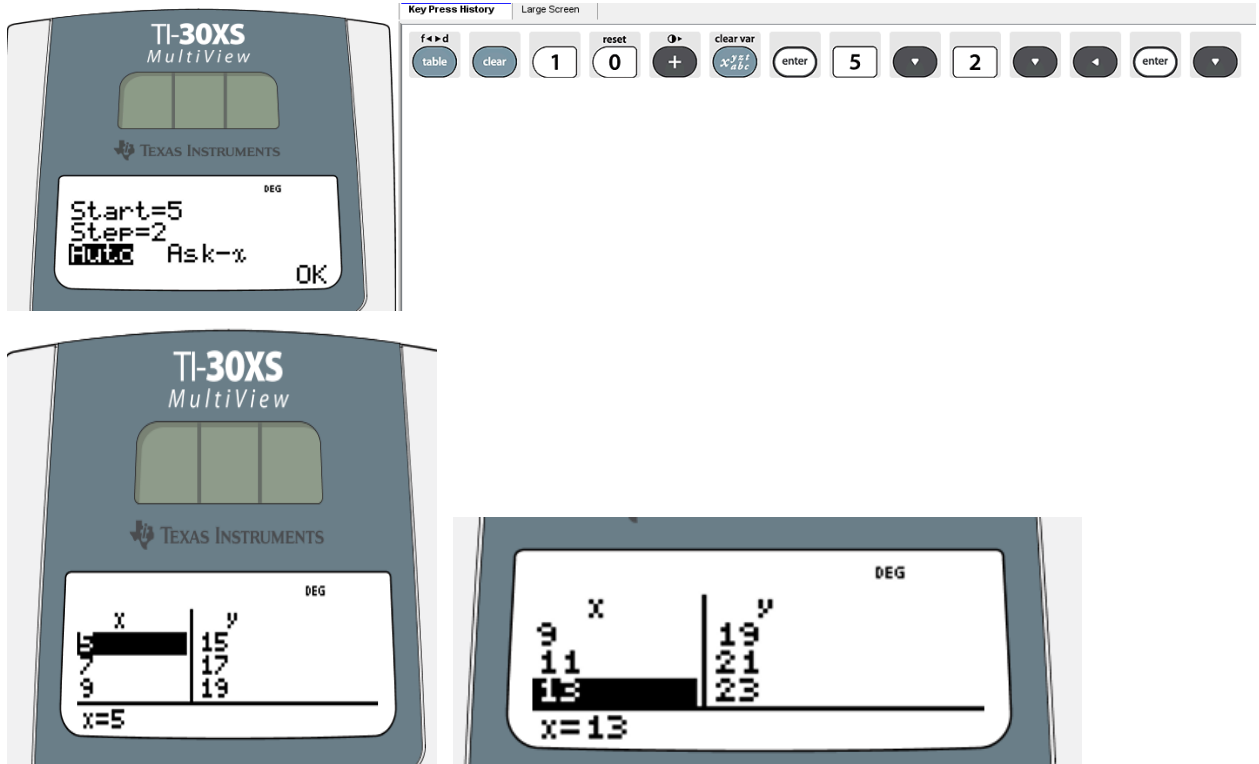
Use the up and down arrows to scroll the table.

2. A table where the user choses the values. After you enter the expression is does not matter where you want to start or what step you want to use. Use the down arrow and the right arrow to cursor down to ASK. Press Enter. Then press Enter when OK is highlighted.
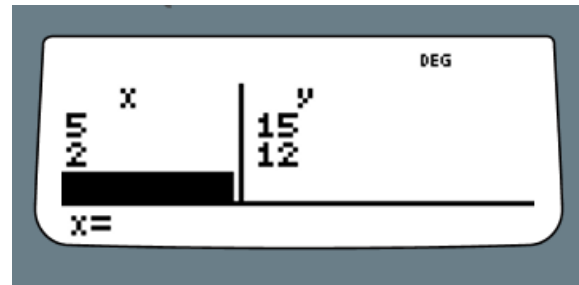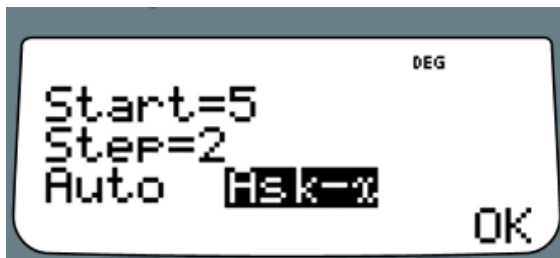
The user can enter values for x, in this case x = 5 and x = 2, and find the value of the expression for those values.
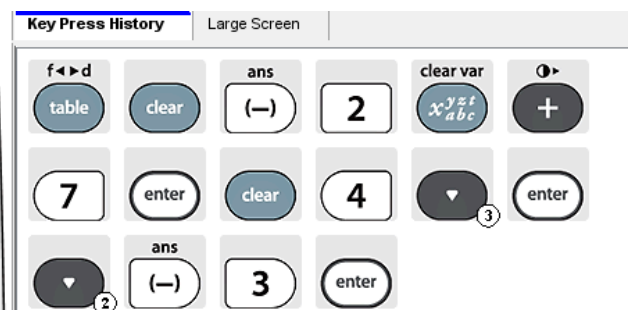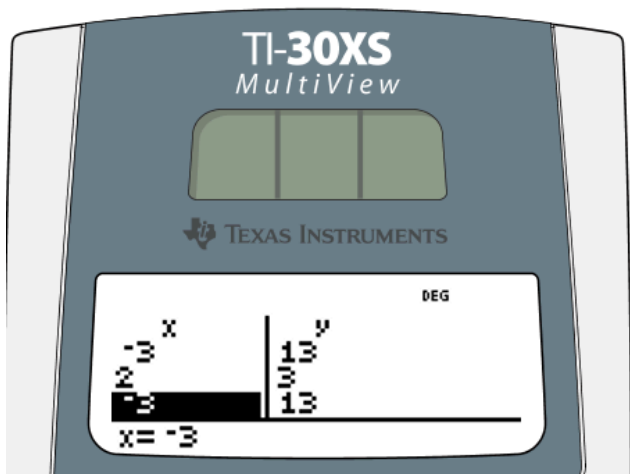
Use Quit [2nd Mode] to get back to the home screen.

Using a Table of Values to Solve an Equation

Examples:

10. Consider this function.

$$f(x) = {}^-2x + 7$$
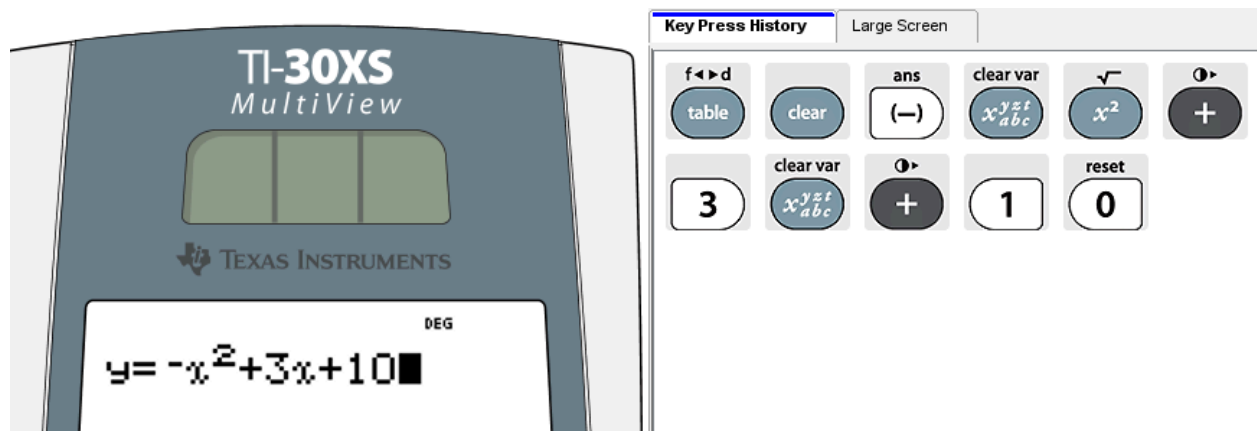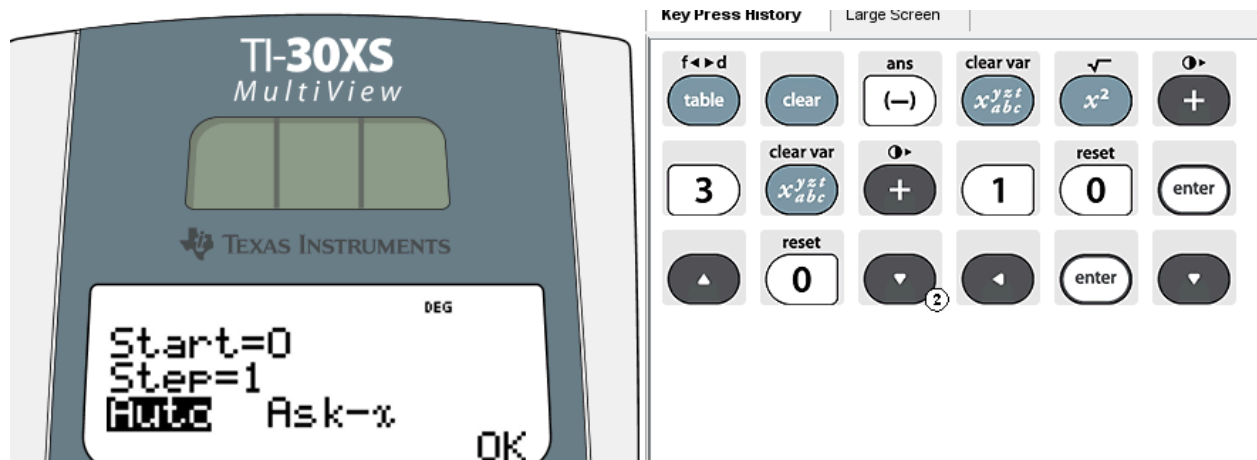
What is $f({}^-3)$?

A rocket on a computer screen has a path modeled by the equation h=-t²+3t+10 where t is time in seconds and h is the height above a platform and is in computer units. Find how long the rocket takes to reach the platform.
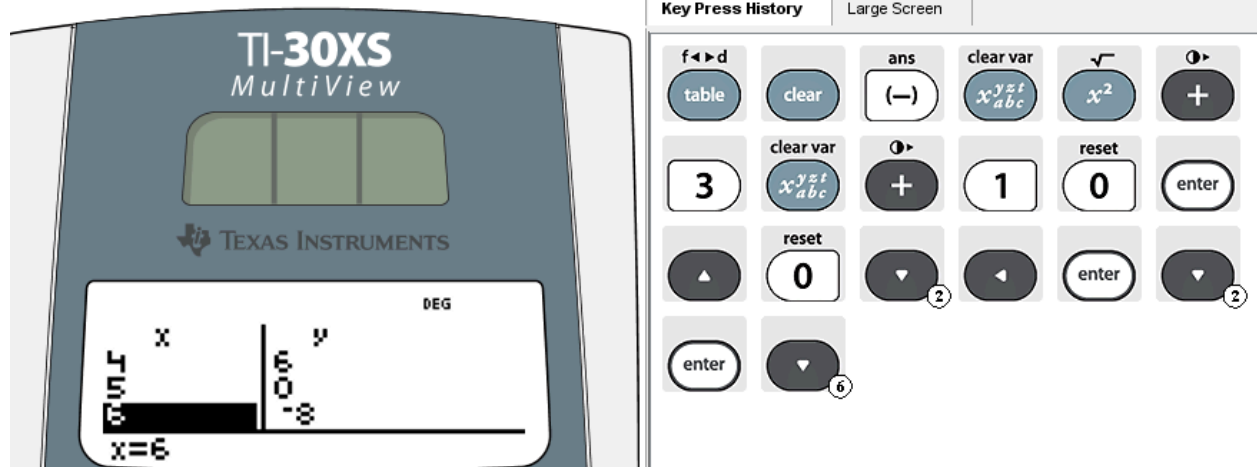
○ 2 seconds

○ 10 seconds

○ 12 seconds

○ 5 seconds

Let t be represented by x and h be represented by y. Enter the rule y = -x²+3x +10.

Create a table that is automatically generated starting at 0 and counting by 1s.

We are looking for the x value when the height, y, equals 0. Scroll to find it.

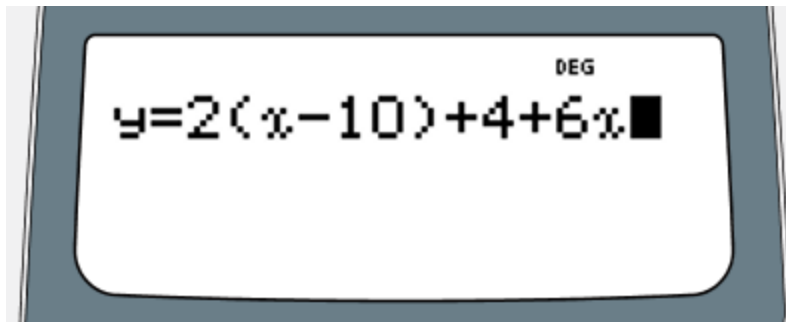So at x = 5 or t = 5 the height is 0 and the ball has reached the platform.

4. What is the solution to the equation $2(x - 10) + 4 = -6x + 2$?

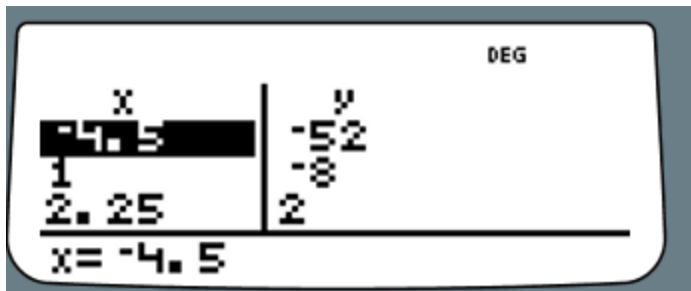A. $-\dfrac{9}{2}$

B. 1

C. $\dfrac{9}{4}$

D. $\dfrac{5}{2}$

You need to manipulate the equation so that one side is a constant. In this case we will add 6x to both sides.

2(x-10) + 4 + 6x = 2

Select the table key and enter the equation. Set up the table using the ask option.

DEG

$y=2(x-10)+4+6x$▮

Enter each of the choices and see whether the result is 2.

DEG

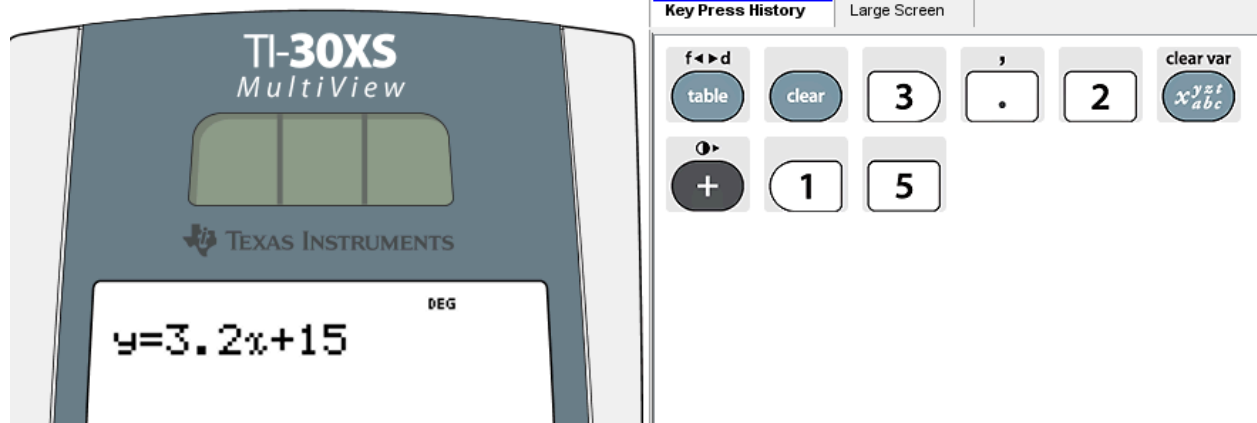| x		y
2.75		-52
1		-8
2.25		2
x= -4.5		

For each problem below, we will enter the rule y = 3.2x +15 to create a table.

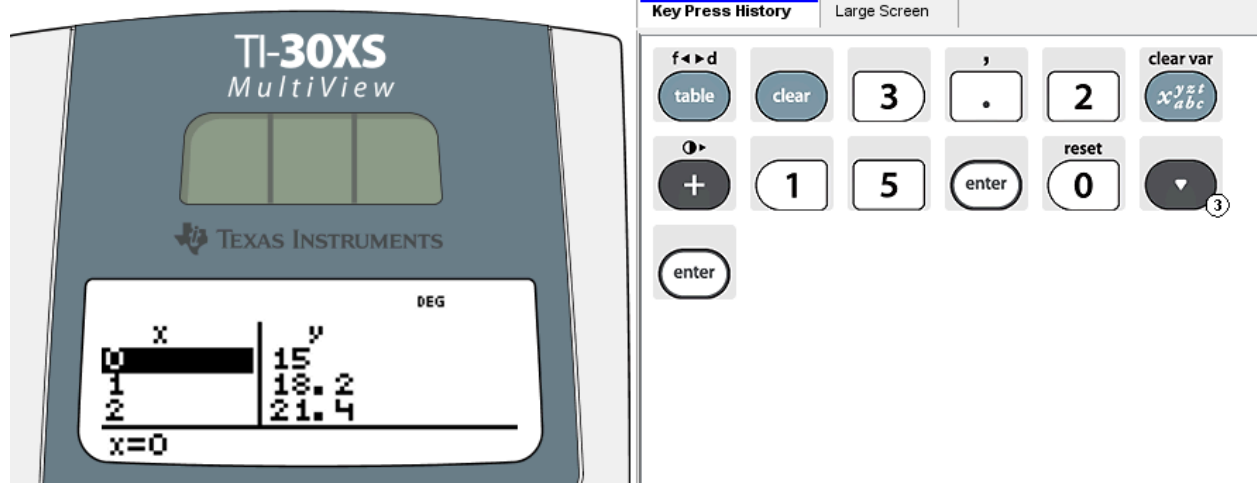**The formula h -15 = 3.2t gives the height h in inches of a plant t weeks after planting.**

How high was the initial height of the shrub?

○ 15 inches

○ 3.2 inches

○ 18.2 inches

○ 11.8 inches

$$y=3.2x+15$$

Initially, time will be zero.

The initial height is 15 inches.

The formula h -15 = 3.2t gives the height h in inches of a plant t weeks after planting.

When was the height 31 inches?

○ Some time between 11 and 18 weeks

○ Some time between 7 and 12 weeks

○ Some time between 6 and 10 weeks

○ Some time between 3 and 7 weeks

Scroll the table until you find a y value of 31.

The height will be 31 inches at 5 weeks, so choice d.