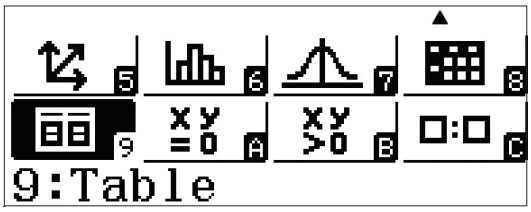
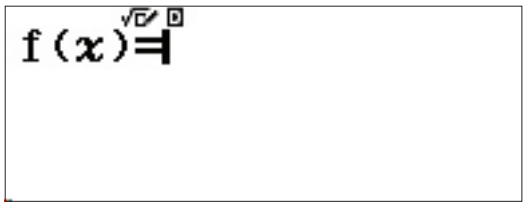
TABLE

The Table feature on the **fx-991EX** is a powerful way to solve a single function or two functions simultaneously. The table range and step is easily customizable.

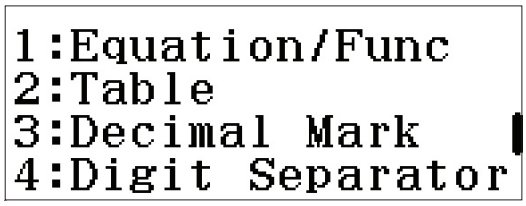
From the Main Menu, use the arrow keys to highlight the Table icon and press [=] or press [9].



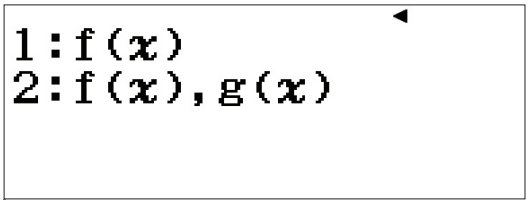
To change the setup of the table to generate a table with only one function, press [SHIFT] [MENU] (SET UP).



Use the down arrow key to view the menu option for Table; it will be the 3rd screen.
Press [2] (Table) to choose the number of functions used in the table.

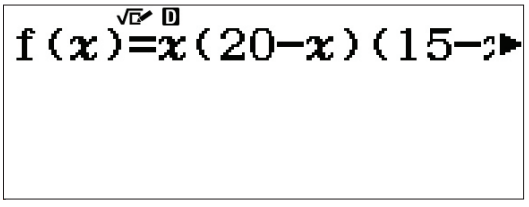


Press [1] (f(x)) to generate a table with only one function as an input.

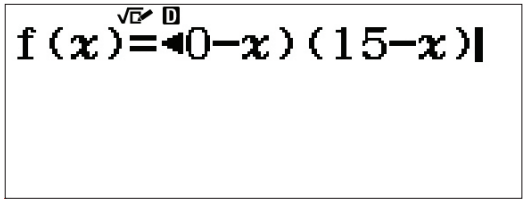


Consider the classic volume of a box problem. What is the maximum volume of a box made from a 20x15 sheet of cardboard by removing squares from each corner?

The function that represents the volume of the box is f(x)= x(20-x)(15-x).

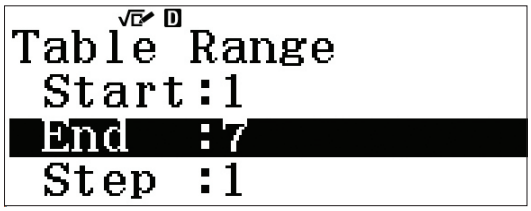


To enter this function, press [x] [(] [2] [0] [−] [x] [)] [(] [1] [5] [−] [x] [)] [=].



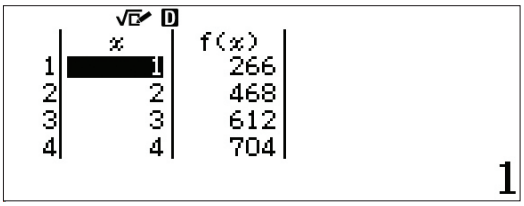
TABLE

To set the range from 1 to 7 and the step at 1, press [1] [=] [7] [=] [1] [=].

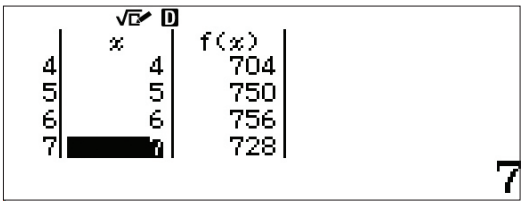


Press [=] to view the table.

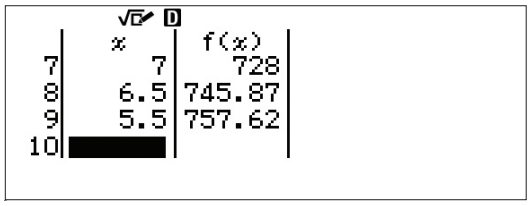
Use the arrow keys to scroll through the values.



The maximum value appears to be between 5 and 6.



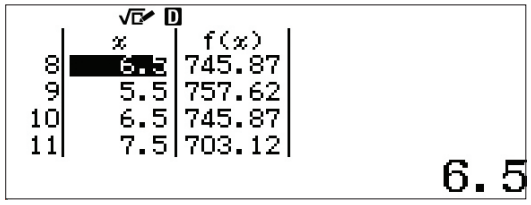
To refine the search, enter a new value in any place in the table.



For example, at line 8, press [6] [•] [5] [=].

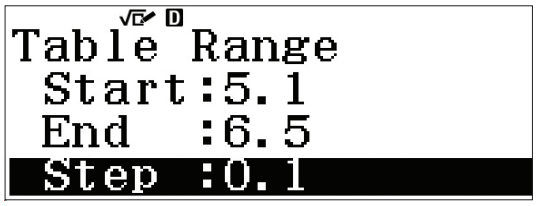
To enter a value one-step greater than the previous value, press [+].

To enter a value one-step less than the previous value, press [−].

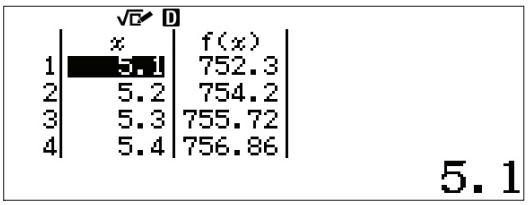


To change the step value or change the start and end values of the table, press [AC] [=].

Enter the new values and press [=] to view the table.

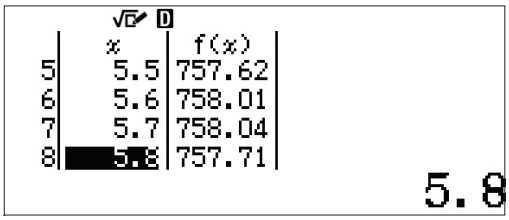


Use the arrow keys to scroll to the value that gives the maximum volume.



TABLE

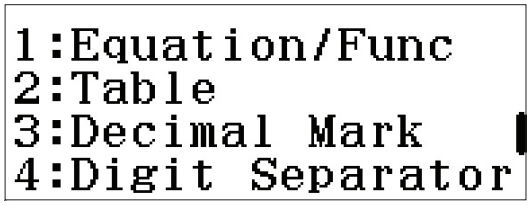
The maximum volume calculated to one decimal place appears at 5.7 inches.



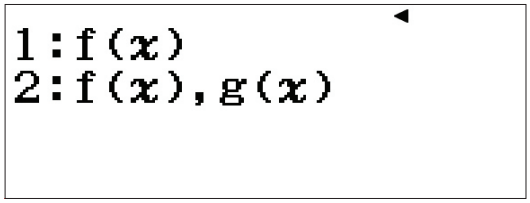
Consider the following two functions $\begin{cases} f(x) = x^3 - 7x + 6 \\ g(x) = x^2 - 3x + 2 \end{cases}$.

Find the roots of the equations and points of intersection, as well as the end behavior of each function.

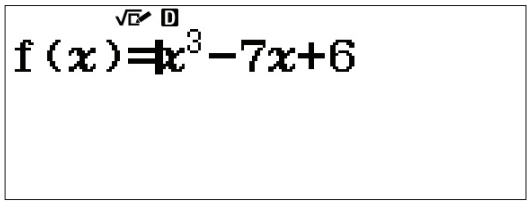
Press [SHIFT] [MENU] (SET UP) and use the down arrow key to view the menu option for Table. Press [2] (Table) to choose the number of functions used in the table.



Press [2] (f(x),g(x)) to generate a table with two function as inputs.

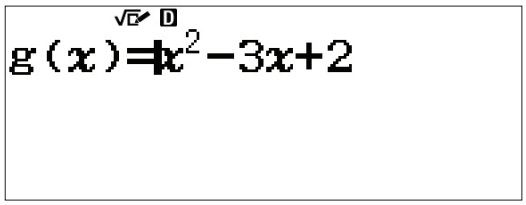


Enter the first function as f(x) by pressing [x] [x²] [3] [▶] [−] [7] [x] [+] [6] [=].

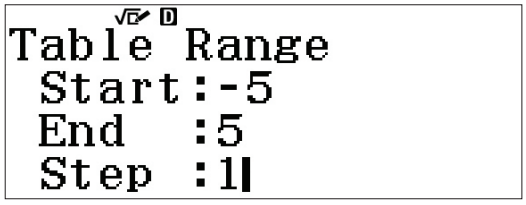


If there is already a function present, press [AC] to clear the previous function.

Enter the second function as g(x) by pressing [x] [x²] [−] [3] [x] [+] [2] [=].

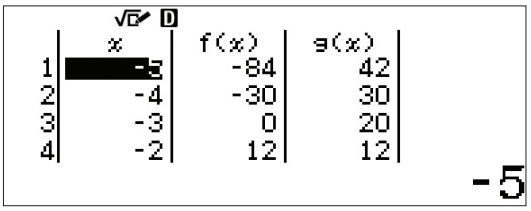


Create a table that has a domain of -5 to 5 with step of 1.

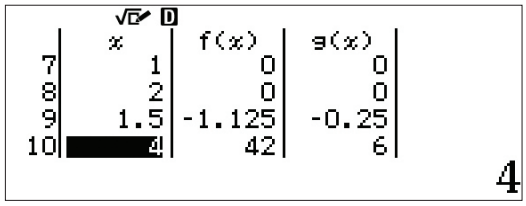


TABLE

Press [=] to view the table.



Based on the information from the table, it appears f(x) goes to negative infinity to the left and g(x) goes to positive infinity to the left.



There appears to be roots of 1 and 2 for both functions.
To determine the behavior between roots, type in a number between 1 and 2, like 1.5.

The right end behavior for both functions appears to be increasing towards positive infinity.