Chapter **12**

Graph-to-Table

With this function, the screen shows both a graph and a table. You can move a pointer around the graph and store its current coordinates inside the table whenever you want. This function is very useful for summarizing graph analysis results.

• Be sure to read "Chapter 8 Graphing" and "Chapter 9 Graph Solve" before trying to perform any of the operations described in this chapter.

12-1 Before Using Graph-to-Table

1. In the Main Menu, select the **GRAPH** icon and enter the GRAPH Mode. Next, use the set up screen to set the Dual Screen item to "**G to T**".

2. Press [EXIT] and the Graph-to-Table menu appears.

```
Graph to Table:Y=
Y1:
Y2:
Y3:
Y4:
Y5:
Y6:
SEL DEL TYPE COLR    DRAW
```

• For the meaning of the items in the function menu at the bottom of the screen, see "8-1 Before Trying to Draw a Graph".

• Whenever the set up screen's Dual Screen item is set to "G to T", you can only store rectangular coordinate (Y=), polar coordinate (r=), and parametric function graphs in memory.

• You cannot use Graph-to-Table to display split graph/table screens using X=constant or inequality graphs of functions stored in the GRAPH or TABLE Mode.

12-2 Using Graph-to-Table

P.5

• **To store graph pointer coordinates in a table**

 • If the Derivative item in the set up screen is set to "**On**", the derivative at the location of the trace pointer is also stored in the table.

Example To store the points of intersection and the coordinates for the following graphs where X = 0:

$Y1 = x^2 - 3$ $\qquad\qquad$ $Y2 = -x + 2$

Use the following View Window parameters.

Xmin	= –5	Ymin	= –10
Xmax	= 5	Ymax	= 10
Xscale	= 1	Yscale	= 2

1. Input the two functions.

   Graph to Table:Y=
   Y1▤X²–3
   Y2=–X+2

2. Press [F6] (DRAW) (or [EXE]) to draw the graph in the left half of the screen.
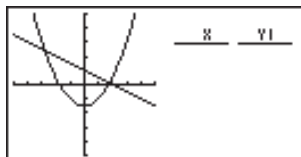
3. Press [F1] (Trace) and then use ▶ to move the pointer to the first intersection.

4. Press [EXE] to store the coordinates of the pointer location in the table on the right side of the screen.
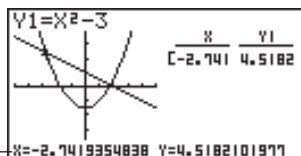
   x/y-coordinate value ——— X=-2.7419354838 Y=4.5182101977

5. Use ▶ to move the pointer to the point where X = 0 and then press [EXE]. Next, move the pointer to the next intersection and press [EXE] again.

   X=1.7741935483   Y=0.14776274714
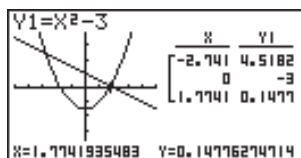
6. Pressing [AC] causes the highlighting to appear in the table. You can then use the cursor keys to move the highlighting around the table and check its values. Press [AC] again to return the pointer to the graph screen.
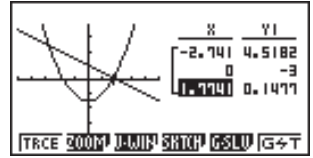
● **To save numeric table values in a list file**

You can save columns of values into list files. Up to six values can be stored in a list file.

• The highlighting can be located in any row of the column whose data you want to save in the list.

Example **To save the x-coordinate data of the previous example in List 1.**

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1. Starting from the screen that appears in step 6 of the previous example, press [OPTN]. The following function menu appears.

• {**CHNG**} ... {changes the active screen (between left and right)}
• {**LMEM**} ... {saves table column to list file}
• {**PICT**} ... {saves graph data to graph memory}

2. Press [F2] (LMEM).

3. Press [F1] (List1) to store the data in the x-coordinate column into List 1.

• Table data uses the same memory as TABLE menu table data.
• Always be sure to store table data into a list.
• Any of the following operations causes table data to be deleted.
   — Editing expression data
   — Changing set up screen or View Window settings
   — Changing to a different mode
• If you save data into a list that already contains data, the previous data is replaced with the new data.

• For details on recalling numeric data saved in a list file, see "17. List Function".

■ **Graph-to-Table Precautions**

- The only coordinates that can be saved in the table are those where the pointer can move to using trace and graph solve.

- The only graph functions that can be used with a graph produced using the Graph-to-Table are: trace, scroll, zoom, and graph solve (excluding integration calculations).

- Graph functions cannot be used while the highlighting is blinking in the table. To clear the highlighting and make the graph side the active screen, press OPTN F1 (CHNG).

- OPTN key operation is disabled whenever a graph and table are both on the screen and there is no numeric data in the table, and when the screen is not split (i.e. when either the graph or table only is on the display).

- An error occurs if a graph for which a range is specified or an overwrite graph is included among the graph expressions.