



# Graphing Calculator Investigation

A Preview of Lesson 8-2

TI-82

## Function Tables

You can use a TI-82 graphing calculator to create function tables. By entering a function and the domain values, you can find the corresponding range values.

Use a function table to find the range of  $y = 3n + 1$  if the domain is  $\{-5, -2, 0, 0.5, 4\}$ .

### Step 1 Enter the function.

- The graphing calculator uses  $X$  for the domain values and  $Y$  for the range values. So,  $Y = 3X + 1$  represents  $y = 3n + 1$ .
- Enter  $Y = 3X + 1$  in the  $Y=$  list.

KEYSTROKES:  $Y=$  3  $X,T,\theta$  + 1

### Step 2 Format the table.

- Use **TBLSET** to select *Ask* for the independent variable and *Auto* for the dependent variable. Then you can enter any value for the domain.

KEYSTROKES: 2nd [TBLSET]  $\nabla$   $\nabla$   $\blacktriangleright$   
ENTER  $\nabla$  ENTER

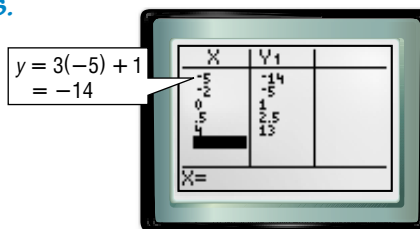
### Step 3 Find the range by entering the domain values.

- Access the table.
- Enter the domain values.

KEYSTROKES: 2nd [TABLE]

KEYSTROKES: -5 ENTER -2 ENTER ... 4 ENTER

The range is  $\{-14, -5, 1, 2.5, 13\}$ .



### Exercises 1b. As $X$ increases by 1 unit, $Y$ decreases by 2 units.

Use the **TABLE** option on a graphing calculator to complete each exercise.

- Consider the function  $f(x) = -2x + 4$  and the domain values  $\{-2, -1, 0, 1, 2\}$ .
  - Use a function table to find the range values. **{8, 6, 4, 2, 0}**
  - Describe the relationship between the  $X$  and  $Y$  values.
  - If  $X$  is less than  $-2$ , would the value for  $Y$  be greater or less than 8? Explain. **See pp. 431A–431H.**
- Suppose you are using the formula  $d = rt$  to find the distance  $d$  a car travels for the times  $t$  in hours given by  $\{0, 1, 3.5, 10\}$ .
  - If the rate is 60 miles per hour, what function should be entered in the  $Y=$  list?  **$Y = 60X$**
  - Make a function table for the given domain. **See pp. 431A–431H.**
  - Between which two times in the domain does the car travel 150 miles? **1 h and 3.5 h**
  - Describe how a function table can be used to better estimate the time it takes to drive 150 miles. **See pp. 431A–431H.**
- Serena is buying one packet of pencils for \$1.50 and a number of fancy folders  $x$  for \$0.40 each. The total cost  $y$  is given by  $y = 1.50 + 0.40x$ .
  - Use a function table to find the total cost if Serena buys 1, 2, 3, 4, and 12 folders. **\$1.90, \$2.30, \$2.70, \$3.10, \$6.30**
  - Suppose plain folders cost \$0.25 each. Enter  $y = 1.50 + 0.25x$  in the  $Y=$  list as  $Y_2$ . How much does Serena save if she buys pencils and 12 plain folders rather than pencils and 12 fancy folders? **\$1.80**



[www.pre-alg.com/other\\_calculator\\_keystrokes](http://www.pre-alg.com/other_calculator_keystrokes)