ACTIVITY 3.6
Using Technology

Graphing Calculator Activity for use with Lesson 3.6

Using a Table or Spreadsheet to Solve Equations

One way to solve multi-step equations is to use a graphing calculator or spreadsheet software on a computer to generate a table of values. The table can show a value of *x* for which the two sides of the equation are approximately equal.

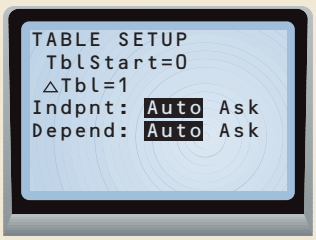
EXAMPLE

Use a table on a graphing calculator to solve $4.29x + 3.89(8 - x) = 2.65x$. Round your answer to the nearest tenth.

STUDENT HELP
INTERNET SOFTWARE HELP
See steps for using a computer spreadsheet as an alternative approach at www.mcdougallittell.com

SOLUTION

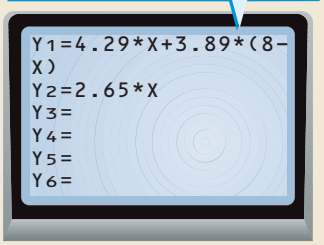
1 Use the *Table Setup* function on your graphing calculator to set up a table. Choose values beginning at 0 and increasing by 1.



2 You want the table to show the value of the left-hand side of the equation in the second column and the value of the right-hand side of the equation in the third column.

Press [Y=]. Enter the left-hand side of the equation as Y_1 and the right-hand side of the equation as Y_2.

Enter [×] for each multiplication. It prints as *.



3 View your table. The first column of the table should show values of x. Scroll down until you find values in the second and third columns that are approximately equal. The values are closest to being equal when $x = 14$, so the solution must be greater than 13 and less than 15.

X	Y1	Y2
12	35.92	31.8
13	36.32	34.45
14	36.72	37.1
15	37.12	39.75
16	37.52	42.4

4 To find the solution to the nearest tenth, go back to the table setup and change it so that x starts at 13.1 and increases by 0.1. Then view your adjusted table. The values in the second and third columns are closest to being equal when $x = 13.8$.

X	Y1	Y2
13.6	36.56	36.04
13.7	36.6	36.305
13.8	36.64	36.57
13.9	36.68	36.835
14	36.72	37.1

▶ The solution to the nearest tenth is 13.8.

EXERCISES

Use a graphing calculator to solve the equation. Round to the nearest tenth.

1. $19.65x + 2.2(x - 6.05) = 255.65$

2. $16.2(3.1 - x) - 31.55x = -19.5$

3. $3.56x + 2.43 = 6.17x - 11.40$

4. $3.5(x - 5.6) + 0.03x = 4.2x - 25.5$