



# Graphing Calculator Investigation

A Follow-Up of Lesson 7-1

TI-73

## Systems of Equations

You can use a TI-73 graphing calculator to solve a system of equations.

### Example

Solve the system of equations. State the decimal solution to the nearest hundredth.

$$2.93x + y = 6.08$$

$$8.32x - y = 4.11$$

**Step 1** Solve each equation for  $y$  to enter them into the calculator.

$$2.93x + y = 6.08$$

First equation

$$2.93x + y - 2.93x = 6.08 - 2.93x$$

Subtract  $2.93x$  from each side.

$$y = 6.08 - 2.93x$$

Simplify.

$$8.32x - y = 4.11$$

Second equation

$$8.32x - y - 8.32x = 4.11 - 8.32x$$

Subtract  $8.32x$  from each side.

$$-y = 4.11 - 8.32x$$

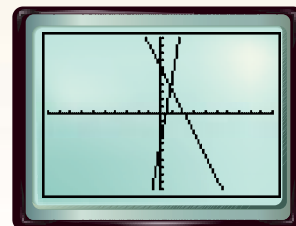
Simplify.

$$(-1)(-y) = (-1)(4.11 - 8.32x)$$

Multiply each side by  $-1$ .

$$y = -4.11 + 8.32x$$

Simplify.



[10, 10] scl: 1 by [-10, 10] scl: 1

**Step 2** Enter these equations in the  $Y=$  list and graph.

**KEYSTROKES:** Review on pages 224–225.

**Step 3** Use a table to find the point where  $Y_1 = Y_2$ .

**KEYSTROKES:**  $\boxed{2nd}$   $\boxed{TblSet}$   $\boxed{\blacktriangledown}$   $\boxed{.01}$   $\boxed{\blacktriangledown}$   $\boxed{ENTER}$   $\boxed{\blacktriangledown}$   $\boxed{ENTER}$

$\boxed{2nd}$   $\boxed{TABLE}$

X	Y1	Y2
.88	3.5016	3.2116
.89	3.4723	3.2848
.90	3.4430	3.3580
.91	3.4137	3.4312
.92	3.3844	3.5044
.93	3.3551	3.5776
.94	3.3258	3.6508

X= .91

The solution is approximately  $(0.91, 3.43)$ .

### Exercises

Use a graphing calculator to solve each system of equations. Write decimal solutions to the nearest hundredth.

1.  $y = 3x - 4$

$y = -0.5x + 6$  **(2.86, 4.57)**

2.  $y = 2x + 5$

$y = -0.2x - 4$  **(-4.09, -3.18)**

3.  $x + y = 5.35$

$3x - y = 3.75$  **(2.28, 3.08)**

4.  $0.35x - y = 1.12$

$2.25x + y = -4.05$  **(-1.13, -1.51)**

5.  $1.5x + y = 6.7$

$5.2x - y = 4.1$  **(1.61, 4.28)**

6.  $5.4x - y = 1.8$

$6.2x + y = -3.8$  **(-0.17, -2.73)**

7.  $5x - 4y = 26$

$4x + 2y = 53.3$  **(10.2, 6.25)**

8.  $2x + 3y = 11$

$4x + y = -6$  **(-2.9, 5.6)**

9.  $0.22x + 0.15y = 0.30$

$-0.33x + y = 6.22$  **(-2.35, 5.44)**

10.  $125x - 200y = 800$

$65x - 20y = 140$  **(1.14, -3.29)**



[www.algebra1.com/other\\_calculator\\_keystrokes](http://www.algebra1.com/other_calculator_keystrokes)