

CW 9 Solving Systems of Linear Equations by Substitution

Work with a partner. Solve each system of linear equations using one of these two methods.

Method 1 Solve for x first.

Solve for x in one of the equations. Substitute the expression for x into the other equation to find y . Then substitute the value of y into one of the original equations to find x .

Method 2 Solve for y first.

Solve for y in one of the equations. Substitute the expression for y into the other equation to find x . Then substitute the value of x into one of the original equations to find y .

Look at each equation and determine which equation can most easily be solved for x or y . Then follow “method 1” or “method 2” to get the solution to the system of equations. Then check!

1. $3x + 8y = -8$ $y = 2$	2. $y = -3x - 3$ $7x - 8y = 24$
3. $6x + 8y = -24$ $y = -5x - 3$	4. $y = -8$ $-8x - 3y = 8$
5. $3x + 2y = 5$ $-6x + y = -5$	6. $x - 4y = -7$ $-5x - 2y = -9$



HW 9: Puzzle Time

Show work on a separate page!!!

Did You Hear About The Pig That Built Himself A Home?

A	B	C	D	E	F
G	H	I	J	K	L
M					

Complete each exercise. Find the answer in the answer column. Write the word under the answer in the box containing the exercise letter.

(-5, -4) IN
(0, 0) BRICK
(6, 0) CALLED
(0, -2) MADE
(1, 3) TAIL
(-3, -3) IT
(-4, -8) KNOT
(8, 8) THREE
(7, 2) WOOD

Solve the system of linear equations by substitution.

Show work on a separate page. Check your solution!

A. $3x + 2y = 12$

$y = x - 9$

C. $-3x + 5y = 5$

$y = x - 1$

E. $7x = -35$

$-8x + 9y = 4$

G. $13x - 6y = -5$

$x + 10 = 11$

I. $x = 6 + 2y$

$-3x + 14y = -18$

K. $x - y = -8$

$6x + y = -6$

B. $4x + y = -2$

$y = 2x - 2$

D. $2x + y = -16$

$y = 2x$

F. $-4x + 3y = 20$

$-14y = -56$

H. $9x - 2y = 12$

$y + 4 = 16$

J. $5x - 9y = 12$

$x + y = -6$

L. $7x - 3y = 17$

$2x - y = 6$

M. The physical education instructor asked each student to do a total of 36 pull-ups and push-ups in 1 minute. The instructor wanted students to do 8 times as many push-ups as pull-ups. Write a system of linear equations that represents this situation. How many pull-ups and push-ups were required in 1 minute?

(5, 4) A
(4, 12) AND
(4, 32) TIE
(6, -3) HE
(-2, 6) A
(-2, 4) HIS
(-1, -8) PIG'S
(12, 0) NAILS
(0, 15) YARD