DO NOW

Is (2, 2) a solution to the system of equations?

$2x = y + 2$

$x + y = 7$

$2(2) = 2 + 2$

$4 = 4$ ✓

$2 + 2 = 7$

$4 \neq 7$

Mar 8-11:26 AM

Homework Answers

1) (2, 4)

2) Infinite # of Solutions

3) (3, 10)

4) No Solution

5) (3, 6)

6) (5, 2)

7) (-2, 2)

8) (6, 2)

Nov 19-10:22 AM

Systems of Equations - Elimination Method

Solving systems of linear equations by addition.

Steps:

1. Variables must be "lined up"

2. Make sure the variable being eliminated has the same coefficient with opposite signs. (One has to be negative one has to be positive!)

3. Add your two equations together, and one of the variables should eliminate!

4. Solve

5. Substitute back into one of the original equations to find the other variable.

6. Check your solution

Jan 14-12:57 PM

Example 1:

$x + 3y = -13$

$+ \quad -x - y = 5$

$2y = -8$

$y = -4$

$-x - y = 5$

$-x - (-4) = 5$

$-x + 4 = 5$

$-x = 1$

$x = -1$

Solution

$(-1, -4)$

Check

$x + 3y = -13$

$(-1) + 3(-4) = -13$

$-1 - 12 = -13$

$-13 = -13$

$-x - y = 5$

$-(-1) - (-4) = 5$

$1 + 4 = 5$

$5 = 5$

Mar 5-8:59 AM

Example 2:

$-1[3x + 2y = 6]$

$x + 2y = -2$

$-3x - 2y = -6$

$+ \quad x + 2y = -2$

$-2x \quad = -8$

$x = 4$

$3x + 2y = 6$

$3(4) + 2y = 6$

$12 + 2y = 6$

$2y = -6$

$y = -3$

$(4, -3)$

Jan 14-12:57 PM

Example 3:

$3[x - y = 2]$

$5x + 3y = 18$

$3x - 3y = 6$

$+ 5x + 3y = 18$

$8x \quad = 24$

$x = 3$

$x - y = 2$

$3 - y = 2$

$-y = -1$

$y = 1$

$(3, 1)$

Jan 14-12:59 PM

Example 4:

5 [6x + 3y = -24]

3 [7x - 5y = 6]

$30x + 15y = -120$

$+21x - 15y = 18$

$\frac{51x}{51} = \frac{-102}{51}$

$x = -2$

$6x + 3y = -24$

$6(-2) + 3y = -24$

$-12 + 3y = -24$

$3y = -12$

$y = -4$

$(-2, -4)$

Nov 17-9:05 AM

Example 5:

$3x + 3y = 4$

-3 [$x + y = 2$]

$-3x - 3y = -6$

$3x + 3y = 4$

$0 \neq -2$

No Solution

Nov 17-10:28 AM