

DO NOW

Frank wants to eliminate the variable y from the system below by adding.

$$\begin{cases} 7x - 6y = 8 \\ 2x + 2y = 6 \end{cases}$$

Which step will enable him to do this?

- a. Multiply $7x - 6y = 8$ by 3
- b. Multiply $7x - 6y = 8$ by -3
- c. Multiply $2x + 2y = 6$ by 3
- d. Multiply $2x + 2y = 6$ by -3

Nov 20-10:59 AM

HW Answers

- 1) $(-4, -1)$
- 2) $(-3, -1)$
- 3) No solution
- 4) Infinite # of Solutions

Nov 21-6:54 AM

Methods to Solve a System of Equations

- Graphically

Both
 $y = mx + b$
 Slope & y-intercept
 to graph

- Algebraically

> Elimination

> Substitution

→ lined up

$x =$ or $y =$

Oct 20-9:37 AM

Choosing a Method to

Solving Systems of Equations Algebraically

Elimination Method

Terms should "line up"

May need to multiply equations by a constant to get terms to "cancel out"

MUST BE USED WHEN EVERY VARIABLE HAS A COEFFICIENT OTHER THAN 1

Substitution Method

Use when one equation is solved for a variable ($x =$ or $y =$)

Dec 9-6:45 AM

Select which Method would be most appropriate to solve each system algebraically

1. $x = 4y - 10$
 $5x + 3y = -4$

Substitution

2. $x + 3y = 18$
 $-x + 2y = 7$

Elimination/Substn

3. $6x + 10y = 4$
 $3x + 5y = 12$

Elimination

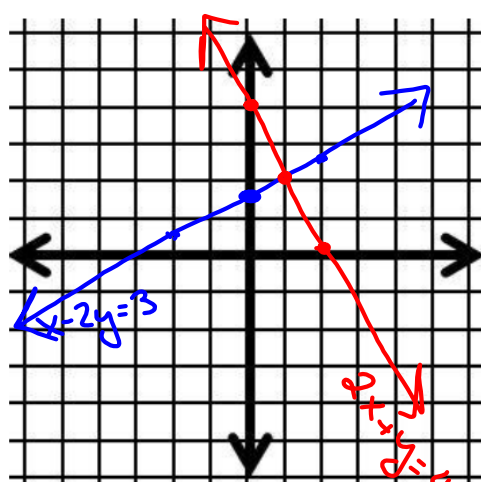
4. $y = 2x - 5$
 $6x - 3y = 15$

Substitution

Oct 20-9:27 AM

Example 1:

Solve the linear system by graphing.



Solution (1, 2)

$$\begin{array}{r} -x + 2y = 3 \\ +x \quad \quad +x \\ \hline 2y = x + 3 \\ \frac{2y}{2} = \frac{x}{2} + \frac{3}{2} \\ y = \frac{1}{2}x + \frac{3}{2} \\ m = \frac{1}{2} \\ b = \frac{3}{2} = 1.5 \end{array}$$

$$\begin{array}{r} -x + 2y = 3 \\ 2x + y = 4 \\ -2x \quad -2x \\ \hline y = -2x + 4 \\ m = -\frac{2}{1} \\ b = 4 \end{array}$$

Nov 3-11:21 AM