Warm-Up

Solve for the indicated variable.

1) $2y + 7x = 4y + 3$ for y

2) $m = \frac{x - y}{3}$ for x

Sep 6-12:49 PM

Homework questions?

Aug 28-7:29 AM

Today:

Solving systems of Linear Equations

$x + 7y = 0$
$2x - 8y = 22$

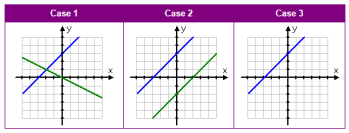
$3x - 5y = 17$
$y = -7$

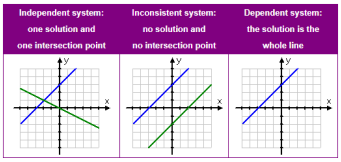
$y = 4x - 9$
$y = x - 3$

What were the methods that you used??

Aug 20-5:02 PM

If you solved by graphing, any of the following could occur. What did each indicate about the number of solutions?





Aug 20-5:12 PM

Today, we're primarily going to focus on 2 ways of solving linear systems:

- By graphing in the calculator
- By substitution

Aug 20-5:14 PM

Solving Systems of Equations	By Substitution
Step 1	Solve for one variable in one equation
Step 2	Substitute # 1 into other equation
Step 3	Solve that equation
Step 4	Substitute that number into one of the original equations and solve
Step 5	Write as an ordered pair, (x,y) and check.

Sep 6-10:16 AM

Solving by Graphing in Calculator

$y = mx + b$

Ex 1) $6x + 8y = -22$

$y = -5$

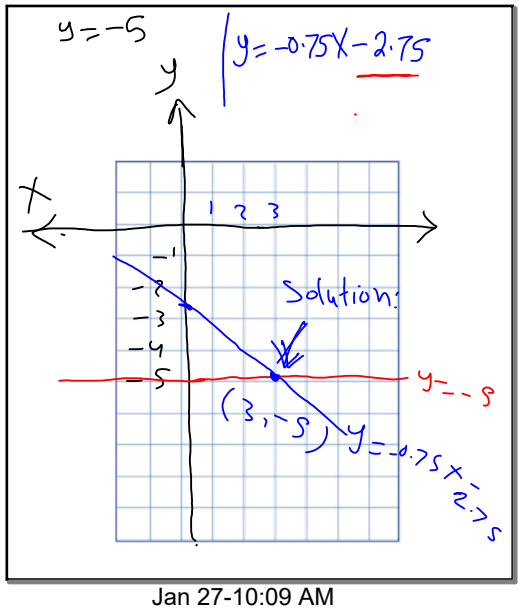
$6x + 8y = -22$

$-6x \quad -6x$

$\frac{8y}{8} = \frac{-6x}{8} - \frac{22}{8}$

$y = -0.75x - 2.75$

Aug 20-5:18 PM



Jan 27-10:09 AM

① $y = -5$

② $y = -0.75x - 2.75$

Substitute y from eq. ① into eq. #②

$-5 = -0.75x - 2.75$

$+2.75 \quad +2.75$

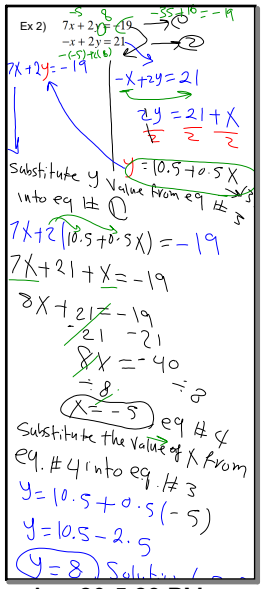
$-2.25 = -0.75x$

$\frac{-2.25}{-0.75} = \frac{-0.75x}{-0.75}$

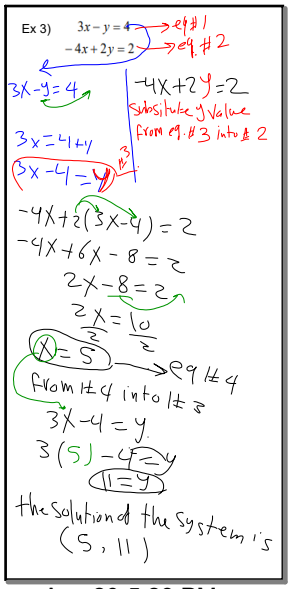
$3 = x$

$(3, -5)$

Jan 27-10:15 AM



Aug 20-5:28 PM



Aug 20-5:28 PM

Solve by using Substitution Method:

Ex 1) $\begin{cases} y = 3x \\ x + 21 = -2y \end{cases}$ #1 #2

$x + 21 = -2(3x)$

$x + 21 = -6x$

$\frac{-x}{21} = \frac{-x}{-7x}$

$\frac{21}{7} = \frac{-7x}{7}$

$x = -3$ → #5

Substitute x value from eq #3 into eq #1

$y = 3x$

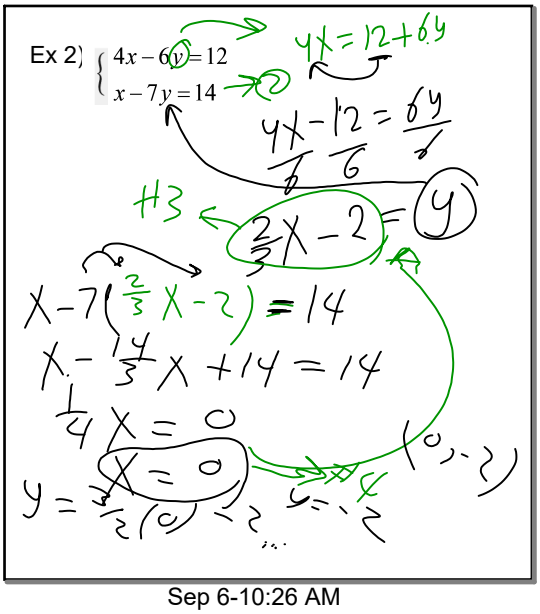
$y = 3(-3)$

$y = -9$

Solution $(-3, -9)$

Sep 6-10:23 AM

Ex 2) $\begin{cases} 4x - 6y = 12 \\ x - 7y = 14 \end{cases}$



Sep 6-10:26 AM

Ex 3) $\begin{cases} 2x - 3y = -2 \\ 4x + y = 24 \end{cases}$

Aug 20-4:48 PM

Ex 4) $\begin{cases} 7x + 2y = 16 \\ -21x - 6y = 24 \end{cases}$

A little tricky!!

Aug 20-5:21 PM