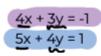# lulumath

Solving Systems of Equations by Elimination (Part 2)

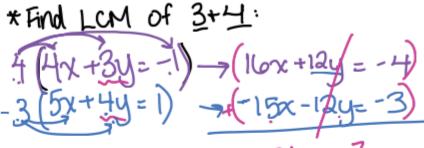## (Video Notes)

Video Link

Solving Systems of Equations by Elimination (Part 2)

Solve the following system of equations by elimination.

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

*Find LCM of $3+4$:

$4(4x + 3y = -1) \rightarrow (16x + 12y = -4)$
$-3(5x + 4y = 1) \rightarrow (-15x - 12y = -3)$

$$x = -7$$

Multiples: $3, 6, 9, 12, 15...$
$3 \nearrow$
$4 \rightarrow 4, 8, 12, 16, 20...$

$4x + 3y = -1$

$4(-7) + 3y = -1$

$-28 + 3y = -1$
$+28 \qquad +28$

$$\frac{3y}{3} = \frac{27}{3}$$

$$y = 9.$$

Solution:
$(-7, 9)$

Solve the following system of equations by elimination.

-3y + 4x = 12

x + 2y = 14

$\rightarrow 4x - 3y = 12 \rightarrow (4x - 3y = 12)$

$\rightarrow -4(1x + 2y = 14) \rightarrow +(-4x - 8y = -56)$

✱LCM of 4,1 = 4

$-11y = -44$

$\overline{-11} \quad \overline{-11}$

$y = 4$

$x + 2y = 14$

$x + 2(4) = 14$

$x + 8 = 14$

$\underline{-8 \quad -8}$

$x = 6$

Solution: (6, 4)