WEDNESDAY, APRIL 3, 2019

Warm Up

Solve for y and get it by itself on one side:

- $2x - 4y = 4$

$-2x \quad -2x$

$\frac{-4y}{-4} = \frac{4 - 2x}{-4}$

$y = -1 + \frac{1}{2}x$

- $y + 2x = y + 2$

$-y \quad -y$

$2x = 2$

y = all real numbers

Solving Systems by Substitution

SOLVING SYSTEMS BY SUBSTITUTION

Form 1

- $y = x + 2$
- $y = -3x - 2$

$y = y$

$x + 2 = -3x - 2$

$-x \quad +2 \quad -x \quad +2$

$4 = -4x$

$\frac{4}{-4} = \frac{-4x}{-4}$

$-1 = x$

$(-1, 1)$

$y = -1 + 2$

$y = 1$

- $x = 4y - 3$
- $x = -y + 2$

$4y - 3 = -y + 2$

$+y \quad +3 \quad +y \quad +3$

$5y = 5$

$\frac{5y}{5} = \frac{5}{5}$

$y = 1$

$x = -1 + 2$

$x = 1$

$(1, 1)$

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Language Objective: I will clearly write the steps for solving a SOLE by the substitution method.
Social Objective: I will work in my group to successfully solve a SOLE word problem using the substitution method and present four representations of our solution to the class.

BRAIN BREAK

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SOLVING SYSTEMS BY SUBSTITUTION

Form 2

- $y = -2x + 3$

$x = y + 3$

$-3 \quad -3$

$x - 3 = y$

$2 - 3 = y$

$-1 = y$

$-2x + 3 = x$

$+2x \quad +3 \quad +2x$

$\frac{6}{3} = \frac{3x}{3}$

$2 = x$

$(2, -1)$

- $y = -3x + 5$

$5x - 4y = -3$

$-5x \quad -5x$

$\frac{-4y}{-4} = \frac{-3 - 5x}{-4} \quad -4$

$y = \frac{3}{4} + \frac{5}{4}x$

$y = -3(1) + 5$

$y = -3 + 5$

$y = 2$

$-3x + \frac{5}{4} = \frac{3}{4} + \frac{5}{4}x$

$-\frac{5}{4}x \quad -\frac{5}{4} \quad -\frac{5}{4}x$

$-\frac{17}{4}x = -\frac{17}{4}$

$-\frac{4}{17} \cdot -\frac{17}{4}x = -\frac{17}{4} \cdot -\frac{4}{17}$

$x = 1$

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SOLVING SYSTEMS BY SUBSTITUTION

Form 3

- $-5x + y = -2$

  $-3x + 6y = -12$

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PRACTICE

Substitution

A. $5x - 2y = 3$
$y = 2x$
(3, 6)

B. $y = 6x + 11$
$2y - 4x = 14$
(-1, 5)

C. $x + 7y = 24$
$x - 9y = -24$
(3, 3)

D. $7x - 4y = -7$
$5x + y = 22$
(3, 7)

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