Warm - Up

11/16/2017

Solve each system using **substitution**.

1. $\begin{cases} y = 6x + 4 \\ y = -3x - 5 \end{cases}$

$6x + 4 = -3x - 5$

$+3x \qquad +3x$

$9x + 4 = -5$

$-4 \qquad -4$

$\frac{9x}{9} = \frac{-9}{9}$

$x = -1$

$y = 6(-1) + 4$

$y = -6 + 4$

$y = -2$

$(-1, -2)$

2. $\begin{cases} 3x - 4y = 15 \\ 7x + y = 4 \end{cases}$

$7x + y = 4$

$-7x \qquad -7x$

$y = 4 - 7x$

$3x - 4(4 - 7x) = 15$

$3x - 16 + 28x = 15$

$31x - 16 = 15$

$+16 \qquad +16$

$\frac{31x}{31} = \frac{31}{31}$

$x = 1$

$7(1) + y = 4$

$7 + y = 4$

$-7 \qquad -7$

$y = -3$

$(1, -3)$

Verify each solution for #1 and #2.

1. $-2 = 6(-1) + 4$

$-2 = -6 + 4$

$\boxed{-2 = -2}$ ✓

$-2 = -3(-1) - 5$

$-2 = 3 - 5$

$\boxed{-2 = -2}$ ✓

2. $3(1) - 4(-3) = 15$

$3 + 12 = 15$

$\boxed{15 = 15}$ ✓

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

$7 - 3 = 4$

$\boxed{4 = 4}$ ✓

What method would you use to solve these systems if you could choose? Explain why.

1. GRAPHING

because both equations are in slope-intercept form.

2. ELIMINATION*

because both equations are in standard form.