

# SUBSTITUTION METHOD

Solve:

$$y = 3x + 1$$



Do you have an equation already solved for y or x?

$$5x + 2y = 13$$

Substitute expression for y

$$y = 3x + 1$$

$$5x + 2(y) = 13$$

$$5x + 2(3x + 1) = 13$$

Solution: ( **1** ,    )


$$5x + 2(3x+1)=13$$

$$\underline{5x + 6x} + 2 = 13$$

Distributive Property

$$11x + 2 = 13$$

Combine Like Terms

$$\begin{array}{r} -2 \qquad -2 \\ 11x = 11 \\ \hline 11 \qquad 11 \end{array}$$

Subtraction  
property of  
equality

$$x = 1$$

Division  
property of  
equality

Solution: ( **1** , **4** )

Original system:

$$\begin{aligned} y &= 3x + 1 \\ 5x + 2y &= 13 \end{aligned}$$

← Substitute value of x into one of the original equations

$$y = 3 ( \quad ) + 1$$

$$y = 3 + 1$$

$$y = 4$$

Solution: ( **1** , **4** )

Original system:

$$\begin{aligned} y &= 3x + 1 \\ 5x + 2y &= 13 \end{aligned}$$

**CHECK!**

$$5( \quad ) + 2( \quad ) = 13$$

$$5 \quad + \quad 8 \quad = 13$$

$$13 = 13$$



# 11-16-16: Algebra 1.

## Game plan:

- **Work on Do now from last lesson (4-3)**
- **Go over Homework 4-3**
- **Discuss the Project ( pairs only)**
- **Homework: Practice review for quiz. Must be completed.**
- **Quiz on lesson 1, 2 and 3 next block.**