Solve each equation for x.

1. 
$$y = x + 3$$

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

Simplify each expression.

$$1.2(x-5)$$

$$2.12 - 3(x + 1)$$

Evaluate each expression for the given value of x.

1. 
$$2/3x + 8$$
 for  $x = 6$ 

2. 
$$3(x - 7)$$
 for  $x = 10$ 

Solve each equation for x.

1. 
$$y = x + 3$$

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

Simplify each expression.

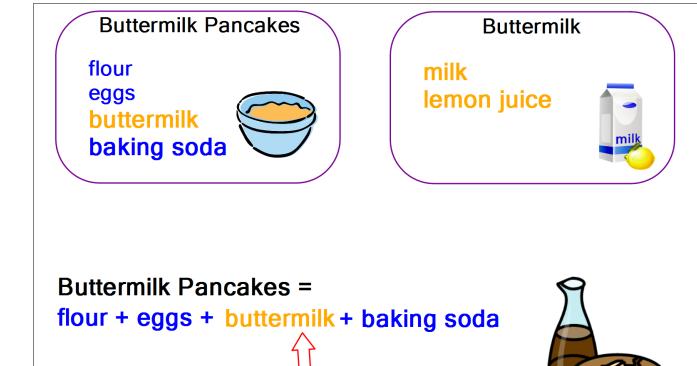
$$2.12 - 3(x + 1)$$

What property do we need here?

Evaluate each expression for the given value of x.

1. 
$$2/3x + 8$$
 for  $x = 6$ 

2. 
$$3(x - 7)$$
 for  $x = 10$ 



Buttermilk = milk + lemon juice

### Big Idea

A system of linear equations is a set of two or more linear equations containing two or more variables.

A solution of a system of linear equations with two variables is an ordered pair that satisfies each equation in the system.

If (3, 1) is the soluiton to the system  $\begin{cases} y = 2x - 5 \\ y = -x + 4 \end{cases}$ 

then (3, 1) will make both equations \_\_\_\_\_.

## Solve the system by substitution:

$$\begin{cases} 2x + y = 5 \\ y = x - 4 \end{cases}$$

RECALL: Solving equations in one variable.

GOAL: Reduce the system to one equation that only has one variable.

**CIRCLE and SWITCH** 

## Solve the system by substitution:

$$\begin{cases} 2x + y = 5 \\ y = x - 4 \end{cases}$$

$$\begin{cases} 2x + y = 5 \\ y = x - 4 \end{cases}$$

$$2x + (x - 4) = 5$$
  
 $2x + x - 4 = 5$   
 $3x - 4 = 5$   
 $3x = 9$   
 $x = 3$ 

$$y = x - 4$$
  
 $y = (3) - 4$   
 $y = -1$   
 $(3, -1)$ 

Find a variable to isolate

Circle and Switch

Substitute in for y and solve algegraically

Substitute x into original equation



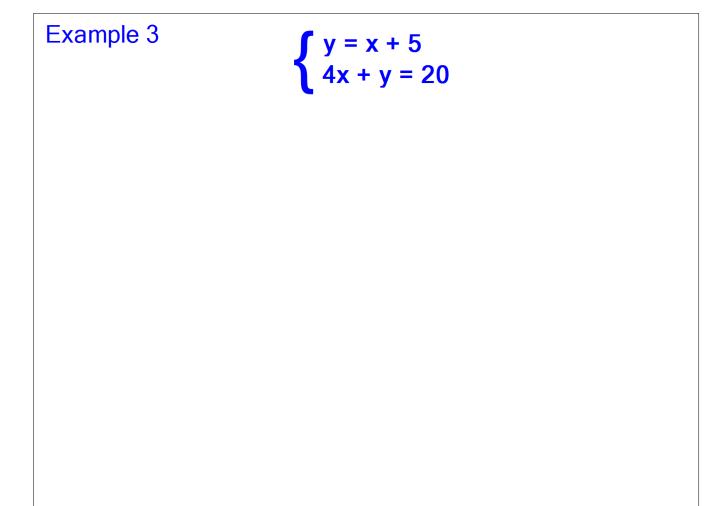
$$\begin{cases} y = 2x \\ y = x + 5 \end{cases}$$

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$$\begin{cases} y = x + 3 \\ y = 2x + 4 \end{cases}$$

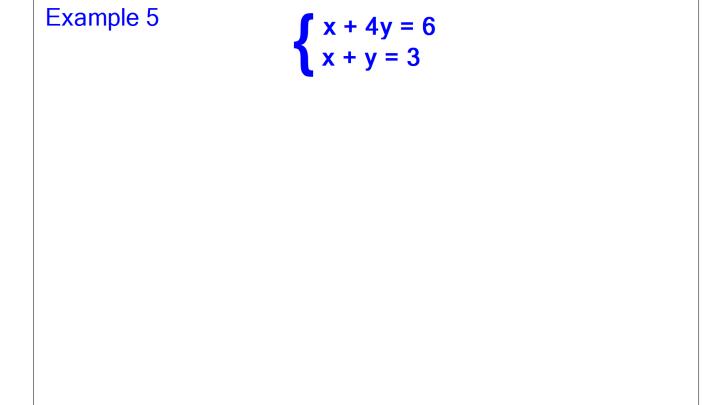
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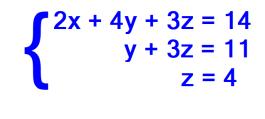




$$\begin{cases} 4y - 5x = 9 \\ x - 4y = 11 \end{cases}$$

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# Solve by Substitution

$$x = 2y - 4$$
  
  $x + 8y = 16$ 

## **EXIT TICKET**