

## U13-3 Solving Systems Using Substitution

### Substitution Method:

#### **Remember:**

Evaluate the following expressions if  $x = 5$  and  $y = 7$

1)  $2x + 5$

2)  $y - 4x$

3)  $5x + 2y$

Ex: 1

Solve using substitution:  $y = x - 14$

$$x + y = 20$$

Step 1: Write an equation containing only one variable and solve for it.

$x =$

Step 2: Solve for the other variable (in this case solve for  $y$ )

$y =$

**Solution:** ( \_\_\_\_\_, \_\_\_\_\_ )

Step 3: Check! Does the solution work in **BOTH** equations?  $x =$  \_\_\_\_\_  $y =$  \_\_\_\_\_

Ex 2:  $y = 2x$   
 $7x - y = 15$

**Solution:** (\_\_\_\_, \_\_\_\_)

Step 1: Write a new equation with one variable and solve for the variable.

Step 2: Solve for the other variable

Step 3: Check the solution  $(x, y)$  in both equations.

$$y = 2x$$

$$7x - y = 15$$

Ex 3:  $3y + 2x = 1$   
 $y = 7x - 15$

**Solution:** (\_\_\_\_, \_\_\_\_)

Step 1: Write a new equation with one variable and solve for the variable.

Step 2: Solve for the other variable

Step 3: Check the solution  $(x, y)$  in both equations.