

2

Since $y = 12 - 3x$, and we just found out that $x = 1$, we can solve for y :

$$y = 12 - 3(1)$$

$$y = 12 - 3$$

$$\underline{y = 9}$$

$x = 1 \text{ \& } y = 9$

Notes: First, if you'd like to check our solution, substitute the values of x and y into both of the original equations. Second, what if none of the variables has a coefficient of 1? Well, you'll just have to pick a variable and then deal with whatever fractions may arise. In the real world, however, it's probably best to solve the system using the Addition Method.

Homework

1. Solve each system using the Substitution Method, and be sure you practice checking your solution (your pair of numbers) in both of the original equations:

a.
$$\begin{aligned} 2x + y &= 5 \\ -2x + 7y &= 19 \end{aligned}$$

b.
$$\begin{aligned} 3m - 2n &= 34 \\ -6m + n &= -62 \end{aligned}$$

c.
$$\begin{aligned} -3w + 4m &= 6 \\ -3w - m &= 1 \end{aligned}$$

Solutions

1. a. $x = 1, y = 3$

b. $m = 10, n = -2$

c. $w = -\frac{2}{3}, m = 1$