4-2 Reteach to Build Understanding

Solving Systems of Equations by Substitution

1. Circle the correct answer for each statement.

Solve the system of linear equations $\begin{cases} 4x + 3y = 9 \\ x - 2y = 5 \end{cases}$ using substitution.

The easiest variable to isolate is (x, y) in the (first, second) equation).

Rewrite the equation in terms of the variable, $x = 2y + 5$.

Since x was isolated in the (first, second) equation, substitute that expression for x into the (first, second) equation.

2. Complete the steps for solving the system of linear equations in Exercise 1.

Substitute $2y + 5$ for x in the first equation.

$4(\underline{\hspace{1.5cm}}) + 3y = 9$

$8y + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = 9$

$\underline{\hspace{1cm}}y = \underline{\hspace{1cm}}$

$y = \underline{\hspace{1cm}}$

Then, $x = 2(\underline{\hspace{1cm}}) + 5 = \underline{\hspace{1cm}} + 5 = \underline{\hspace{1cm}}$.

The solution is $\underline{\hspace{1cm}}$.

3. Joseph solved the system of equations $\begin{cases} 2x + 5y = 3 \\ 3x + y = 11 \end{cases}$ as shown.

$\begin{cases} 2x + 5y = 3 \\ 3x + y = 11 \rightarrow y = -3x + 11 \end{cases}$

$3x + (-3x + 11) = 11$

$11 = 11$

There are infinitely many solutions.

What is Joseph's error? Explain.