

Section 9 Solving Systems of Linear Equations using Substitution

The method of substitution works by solving one of the equations for a variable and substituting the resulting expression into the other equation. This results in a single equation with one variable which we learned to solve earlier.

Example 1: Solving a system using substitution

Solve the system $\begin{cases} x + y = 8 \\ y = 2x - 1 \end{cases}$ using substitution.

Example 2: Solving a system using substitution

Solve the system $\begin{cases} 3x + 2y = 2 \\ -2x + y = 8 \end{cases}$ using substitution.

Example 3: Solving a system using substitution

Suppose you invested \$15,000 into two different accounts. In one year, a total of \$1432 in interest was earned. If the two investments paid 9% and 10%, find the amount invested in each account.

Example 5: Word problems involving systems

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Example 10: Word problems involving systems

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Example 11: Word problems involving systems

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Example 12: Word problems involving systems

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Example 10: Word problems involving systems

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