

Solve a Linear System and Check Both Equations

Worked teaching example

Solve $y = x + 2$ and $x + y = 8$ by substitution. Give the ordered pair and check it in both original equations.

Teaching example — reasoning intentionally shown

A system solution makes both equations true for the same pair. Since y equals $x + 2$, replace y by the whole expression $x + 2$ in the other equation: $x + (x + 2) = 8$. Combine to $2x + 2 = 8$, subtract 2 to get $2x = 6$ and divide by 2 to get $x = 3$. Then $y = 5$. Check $5 = 3 + 2$ and $3 + 5 = 8$ before reporting $(3, 5)$.

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Guided practice 1

Solve $y = 2x + 1$ and $x + y = 10$. Show the substitution and check the ordered pair in both equations.

Show or explain your reasoning. Use the space below or continue on separate paper.

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Guided practice 2

A learner proposes $(4, 3)$ for $x + y = 7$ and $2x - y = 2$. Check both equations. Does this pair solve the system? Explain without solving for a new pair.

Show or explain your reasoning. Use the space below or continue on separate paper.

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Guided practice 3

Solve $x = y - 1$ and $2x + y = 7$. Show which expression replaces x and verify both values.

Show or explain your reasoning. Use the space below or continue on separate paper.
