

System Responses Tailored by Understanding Level

Age: 12

Experience: Middle school student

Question: How to solve a two step equation?

Level 1 Response:

To solve a two-step equation like $2x + 3 = 9$:

1. Subtract 3 from both sides: $2x = 6$.
2. Divide both sides by 2: $x = 3$.

That's it!

Level 3 Response:

A two-step equation requires you to perform two inverse operations to isolate x .

For example, $2x + 3 = 9$:

Step 1: Subtract 3 from both sides $\rightarrow 2x = 6$.

Step 2: Divide both sides by 2 $\rightarrow x = 3$.

Always keep the equation balanced by doing the same operation on both sides.

Level 5 Response:

Two-step equations involve reversing the order of operations to isolate the variable.

Let's solve $3x - 5 = 10$:

Step 1: Add 5 to both sides (undo subtraction): $3x = 15$.

Step 2: Divide both sides by 3 (undo multiplication): $x = 5$.

Key points:

- Use inverse operations in reverse: subtraction \leftrightarrow addition, multiplication \leftrightarrow division.
- Always perform each step on both sides to maintain balance.
- Check your solution by plugging back into the original equation.