

Modified System Responses by Understanding Level

Age: 12

Experience: Middle school student

Question: How to solve a two step equation?

Understanding Level 1:

A two-step equation means you do two things to find x .

Example: $2x + 3 = 9$

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

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

That's it!

Understanding Level 3:

Two-step equations undo operations in reverse order.

For $2x + 3 = 9$:

1. Subtract 3: $2x = 6$

2. Divide by 2: $x = 3$

Always perform inverse operations on both sides to keep the balance.

Understanding Level 5:

Two-step equations apply inverse operations in the opposite order of PEMDAS.

Take $3x - 5 = 10$:

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

2. Divide both sides by 3 to undo multiplication: $x = 5$

Key point: isolate the variable by reversing the original operations.