SKILL#12

CODE: ALG.5

Solving Two-Steps Equations



Core Concept

A two-step equation requires two operations to solve. Your goal is still the same: isolate the variable using inverse operations, but now you do it in two moves!



The Strategy (2 Steps)

- Undo addition or subtraction
- Undo multiplication or division

Always undo the constant first, then the coefficient.

Examples			
Equation	Step 1	Step 2	Solution
2x + 3 = 11	Subtract 3> $2x = 8$	Divide both sides by 2> $x = 4$	x = 4
$\frac{x}{4} - 7 = -2$	Add 7> $\frac{x}{4} = 5$	Multiply both sides by $4> x = 20$	x = 20
-3x + 2 = -4	Subtract 2> $-3x = -6$	Divide both sides by $-3> x = 2$	x = 2

Why This Skill Matters

 $\frac{x}{2} + 5 = 2$

- It's the gateway to solving any algebraic equation
- Teaches order of operations in reverse
- Real-life formulas and multi-step problems often rely on it

Subtract 5 $-->\frac{x}{2}=-3$

Common Mistakes to Avoid

- X Trying to divide first before removing the constant
- X Forgetting to apply the inverse operation correctly
- X Mismanaging negative signs or fractions
- X Not checking the answer by plugging it back in



Multiply both sides by 2 --> x = -6

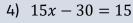
Crack the Lock!

Each equation you solve gives you one digit of the code.

1)
$$5 - 2x = 9$$

2)
$$\frac{x}{2} + 5 = 8$$

3)
$$-\frac{x}{3} + 4 = 3$$





x = -6





Additional Resources





