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 |
| $\frac{x}{2} + 5 = 2$ | Subtract $5 \rightarrow \frac{x}{2} = -3$ | Multiply both sides by 2> $x = -6$ | x = -6 |

Why This Skill Matters

- 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

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



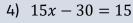
Crack the Lock!

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

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

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

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









Resource Links





