SKILL #10

CODE: ALG.3

Solving One-Step Equations

Core Concept

An equation shows that two expressions are equal — like a balanced scale ⚖️.
Solving an equation means finding the value of the variable that makes both sides equal.
For one-step equations, you only need one operation to solve for the variable.

Golden Rule of Equations

Do the opposite operation to undo what's happening to the variable.

Types of One-Step Equations		
Equation Type	What to Do	Example
$x + a = b$	Subtract a from both sides	$x + 5 = 7$ --> $x = 2$
$x - a = b$	add a from both sides	$x - 5 = 7$ --> $x = 12$
$ax = b$	Divide both sides by a	$5x = 35$ --> $x = 7$
$\frac{x}{a} = b$	Multiply both sides by a	$\frac{x}{5} = 7$ --> $x = 35$

Common Mistakes to Avoid

❌ Forgetting to do the operation on both sides.

❌ Using the same operation instead of the inverse.

❌ Misunderstanding how to handle negative numbers or fractions

💡 Your goal is to isolate the variable on one side of the equation by doing the opposite operation on both sides.

Crack the Lock!

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

1) $x + 6 = 14$
2) $3x = 12$
3) $x \div 2 = 5$
4) $x - 7 = -2$

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Additional Resources



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