

2 Step Equations Worksheet Answer Key PDF

2 Step Equations Worksheet Answer Key PDF

Disclaimer: The 2 step equations worksheet answer key pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at max@studyblaze.io.

Part 1: Building a Foundation

What is the first step in solving a 2-step equation of the form $ax + b = c$?

undefined. Multiply both sides by a

undefined. Add b to both sides

undefined. Subtract b from both sides ✓

undefined. Divide both sides by a

The first step is to eliminate the constant term from the left side of the equation.

Which of the following are common operations used in solving 2-step equations? (Select all that apply)

undefined. Addition ✓

undefined. Subtraction ✓

undefined. Multiplication ✓

undefined. Division ✓

Common operations include addition, subtraction, multiplication, and division.

Explain in your own words what a 2-step equation is and provide an example.

A 2-step equation is an equation that requires two operations to isolate the variable. An example is $2x + 3 = 11$.

List the two main operations typically involved in solving a 2-step equation and describe their purpose.

1. What is the first operation?

Subtract or add a constant.

2. What is the second operation?

Multiply or divide by a coefficient.

The two main operations are addition/subtraction and multiplication/division, used to isolate the variable.

Part 2: Understanding and Interpretation

In the equation $4x + 5 = 21$, what is the purpose of subtracting 5 from both sides?

undefined. To eliminate the variable

undefined. To isolate the variable term ✓

undefined. To balance the equation

undefined. To simplify the equation

Subtract 5 to isolate the variable term on one side of the equation.

Which of the following statements are true about verifying a solution to a 2-step equation? (Select all that apply)

undefined. Substitute the solution back into the original equation. ✓

undefined. Ensure both sides of the equation are equal. ✓

undefined. Check that the variable is isolated.

undefined. The solution must be a whole number.

Verifying a solution involves substituting back into the original equation and checking equality.

Describe the process of solving the equation $3x - 4 = 11$ and explain why each step is necessary.

The process involves adding 4 to both sides and then dividing by 3 to isolate x.

Part 3: Application and Analysis

Solve the equation $2x + 7 = 15$. What is the value of x?

undefined. 3

undefined. 4 ✓

undefined. 5

undefined. 6

The value of x is found by first subtracting 7 and then dividing by 2.

Which of the following equations are solved correctly? (Select all that apply)

undefined. $5x + 3 = 18; x = 3$

undefined. $4x - 2 = 10; x = 3$

undefined. $6x + 9 = 27; x = 3$ ✓

undefined. $7x - 5 = 16; x = 3$

Correct solutions will balance the equation when checked.

Create a real-world scenario where solving a 2-step equation would be necessary, and solve the equation.

A scenario could involve budgeting or measurements that require solving for an unknown.

Part 4: Evaluation and Creation

What is the error in solving the equation $3x + 4 = 19$ by subtracting 4 and then dividing by 2?

undefined. Incorrect subtraction

undefined. Incorrect division ✓

undefined. Incorrect order of operations

undefined. No error

The error is in the incorrect division after subtracting 4; the next step should involve multiplying or dividing by the coefficient of x .

Analyze the following solutions and identify which ones have errors. (Select all that apply)

undefined. $2x + 3 = 11; x = 4$ ✓

undefined. $5x - 7 = 18; x = 5$

undefined. $4x + 6 = 22; x = 4$

undefined. $3x - 5 = 10; x = 5$ ✓

Identifying errors involves substituting back into the original equations to check for correctness.

Break down the steps involved in solving the equation $7x - 3 = 25$ and explain the reasoning behind each step.

The steps involve adding 3 to both sides and then dividing by 7 to isolate x.

If a student solved the equation $6x + 8 = 20$ and found $x = 2$, what is the best evaluation of their solution?

undefined. Correct, because both sides are equal

undefined. Incorrect, because the subtraction was wrong

undefined. Incorrect, because the division was wrong ✓

undefined. Correct, because the operations were performed correctly

The evaluation shows that the solution is incorrect because the operations were not performed correctly.

Create a 2-step equation that has a solution of $x = 5$. Which of the following equations meet this criterion? (Select all that apply)

undefined. $2x + 5 = 15$ ✓

undefined. $3x - 5 = 10$ ✓

undefined. $4x + 1 = 21$

undefined. $5x - 10 = 15$ ✓

Equations that simplify to $x = 5$ when solved are valid.

Design a complex problem involving a 2-step equation and provide a detailed solution, explaining each step and its significance.

A complex problem could involve multiple variables or real-world applications requiring careful reasoning.