

## Two Step Equations Worksheet Answer Key PDF

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### Part 1: Building a Foundation

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**What is the first step in solving the two-step equation  $2x + 5 = 15$ ?**

undefined. Add 5 to both sides

**undefined. Subtract 5 from both sides ✓**

undefined. Multiply both sides by 2

undefined. Divide both sides by 2

The first step is to subtract 5 from both sides.

**Which of the following are characteristics of a two-step equation?**

undefined. Involves only one operation

**undefined. Requires two operations to solve ✓**

**undefined. Can be written in the form  $ax + b = c$  ✓**

undefined. Always results in a fraction

A two-step equation requires two operations to solve and can be written in the form  $ax + b = c$ .

**Explain why it is important to perform the same operation on both sides of a two-step equation.**

**Perform the same operation on both sides to maintain the equality of the equation.**

**List the two operations typically involved in solving a two-step equation.**

1. First operation

**Addition or subtraction**

2. Second operation

**Multiplication or division**

The two operations are addition/subtraction and multiplication/division.

## Part 2: Understanding and Interpretation

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**In the equation  $4x - 7 = 9$ , what is the purpose of adding 7 to both sides?**

undefined. To eliminate the variable

**undefined. To isolate the variable term ✓**

undefined. To simplify the equation

undefined. To check the solution

Adding 7 to both sides helps to isolate the variable term.

**Which of the following steps are necessary to solve the equation  $3x + 6 = 12$ ?**

**undefined. Subtract 6 from both sides ✓**

**undefined. Divide both sides by 3 ✓**

undefined. Multiply both sides by 3

undefined. Add 6 to both sides

You need to subtract 6 from both sides and then divide by 3.

**Describe how solving a two-step equation is similar to solving a real-world problem.**

**Both involve identifying relationships and applying operations to find an unknown.**

## Part 3: Application and Analysis

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**Solve the equation  $5x + 3 = 23$ . What is the value of  $x$ ?**

undefined. 3

**undefined. 4 ✓**

undefined. 5

undefined. 6

The value of  $x$  is 4.

Which of the following equations can be solved using the two-step method?

undefined.  $2x + 4 = 10$  ✓

undefined.  $x/3 - 2 = 5$

undefined.  $7x = 21$

undefined.  $x + 3 = 6$  ✓

The equations  $2x + 4 = 10$  and  $x + 3 = 6$  can be solved using the two-step method.

Create a real-world scenario that can be modeled by the equation  $2x + 5 = 15$ . Explain how you would solve it.

An example could be budgeting for items, and you would solve by isolating  $x$ .

## Part 4: Evaluation and Creation

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If the equation  $6x - 4 = 14$  is solved incorrectly as  $x = 3$ , what mistake might have been made?

undefined. Incorrect addition ✓

undefined. Incorrect subtraction

undefined. Incorrect division

undefined. Incorrect multiplication

The mistake might have been incorrect addition or subtraction.

Analyze the equation  $4x + 8 = 20$ . Which steps are part of the correct solution process?

undefined. Subtract 8 from both sides ✓

undefined. Divide both sides by 4 ✓

undefined. Add 8 to both sides

undefined. Multiply both sides by 4

The correct steps include subtract 8 from both sides and then divide by 4.

**Which of the following statements best evaluates the solution process for the equation  $3x + 9 = 18$ ?**

undefined. The solution process is incorrect because the wrong operations were used.

**undefined. The solution process is correct because the operations maintain equality. ✓**

undefined. The solution process is incorrect because it results in a negative value.

undefined. The solution process is correct because it simplifies the equation.

The solution process is correct because the operations maintain equality.

**Design a two-step equation that represents the following scenario: "A person has \$50 and spends \$3 on each book they buy. How many books can they buy if they want to have \$20 left?"**

**undefined.  $3x + 20 = 50$  ✓**

undefined.  $3x - 50 = 20$

undefined.  $50 - 3x = 20$

undefined.  $20 + 3x = 50$

The correct equation is  $3x + 20 = 50$ .

**Create a complex real-world problem that can be solved using a two-step equation. Provide the equation and explain the solution process.**

**An example could involve budgeting for multiple items, and you would explain how to isolate the variable.**