2 Step Equations Worksheets Questions and Answers PDF

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Part 1: Building a Foundation

What is the first step in solving the equation 3x + 4 = 10?

Hint: Think about how to isolate the variable.

- ◯ Add 4 to both sides
- ◯ **Subtract 4 from both sides ✓**
- ◯ Multiply both sides by 3
- ◯ Divide both sides by 3

> The first step is to subtract 4 from both sides.

Which of the following are examples of 2 step equations? (Select all that apply)

Hint: Look for equations that require two operations to solve.

- ☐ **2x + 5 = 11 ✓**
- ☐ **x/3 - 7 = 2 ✓**
- ☐ 4x = 16
- ☐ x + 3 = 5

> The correct examples are those that require two steps to isolate the variable.

Explain why it is important to perform operations in the correct order when solving 2 step equations.

Hint: Consider the impact on the solution if the order is incorrect.

Perform operations in the correct order ensures that the solution is accurate and valid.

List the two main operations typically involved in solving a 2 step equation.

Hint: Think about the operations that help isolate the variable.

1. First operation

Addition or Subtraction

2. Second operation

Multiplication or Division

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

Part 2: Understanding and Interpretation

In the equation 5x - 9 = 16, what is the result after performing the first step?

Hint: Consider what happens when you isolate the term with x.

- ◯ **5x = 25 ✓**
- ◯ 5x = 7
- ◯ x = 5
- ◯ x = 1.4

After the first step, you would have 5x = 25.

Which steps are necessary to solve the equation x/4 + 3 = 7? (Select all that apply)

Hint: Think about how to isolate x in this equation.

- [x] **Multiply both sides by 4 ✓**
- [x] **Subtract 3 from both sides ✓**
- [ ] Add 3 to both sides
- [ ] Divide both sides by 4

You need to subtract 3 and then multiply by 4 to isolate x.

Describe how you would check if your solution to the equation 2x + 6 = 14 is correct.

Hint: Think about substituting your solution back into the original equation.

You would substitute your solution back into the equation to see if both sides are equal.

Part 3: Application and Analysis

Solve the equation 7x - 5 = 30. What is the value of x?

Hint: Isolate x by performing the necessary operations.

- ◯ **5 ✓**
- ◯ 7
- ◯ 10
- ◯ 15

The value of x is 5.

You have the equation 3(x - 2) = 12. Which of the following steps are correct to solve for x? (Select all that apply)

Hint: Consider how to simplify the equation step by step.

- [x] **Divide both sides by 3 ✓**
- [ ] Add 2 to both sides
- [x] **Subtract 2 from both sides ✓**
- [ ] Multiply both sides by 3

> You need to divide by 3 and then add 2 to isolate x.

Create a real-world scenario where solving a 2 step equation would be necessary, and demonstrate how you would solve it.

Hint: Think about a situation that involves two operations.

> **A scenario could involve budgeting or distance problems that require two steps to solve.**

Part 4: Evaluation and Creation

If you have the equation 4x + 2 = 18, what operation would you perform after subtractinging 2 from both sides?

Hint: Consider how to isolate x after simplifying the equation.

- ○ Multiply by 4
- ○ **Divide by 4 ✓**
- ○ Add 4
- ○ Subtract 4

> You would divide by 4 after subtractinging 2 from both sides.

Analyze the equation 5x - 3 = 2x + 9 and explain the steps needed to isolate x on one side of the equation.

Hint: Think about how to rearrange the equation to get x alone.

You would need to move all terms involving x to one side and constants to the other.

Which of the following equations has a solution that is a negative number?

Hint: Consider the solutions of each equation carefully.

- ◯ 2x + 5 = 9
- ◯ 3x - 4 = 2
- ◯ **x/2 + 3 = 1 ✓**
- ◯ 4x + 1 = 17

The equation x/2 + 3 = 1 has a negative solution.

Evaluate the following solutions to determine which are correct for the equation 6x + 4 = 22. (Select all that apply)

Hint: Substitute each solution back into the equation to check.

- ☐ **x = 3 ✓**
- ☐ x = 4
- ☐ **x = 2 ✓**
- ☐ x = 5

The correct solutions are those that satisfy the equation when substituted.

Design your own 2 step equation that could represent a real-world problem, and explain how you would solve it, including checking your solution.

Hint: Think about a scenario that requires two operations to find a solution.

A real-world problem could involve budgeting or distance, and you would solve it step by step.