NAME

Module 3	Solving Linear Equations
	of One Variable
Lesson 4	Solving Two-Step Linear Equations

Lesson Objectives

- Solve two-step equations.
- Check solutions.
- Determine if a number is a solution for a two-step equation.
- Provide reasons for each step in solving a two-step equation.

To solve equations, you must use *inverse* operations. You can think of this as working backwards. If you pick a number, multiply by 5, and add 3, the result is 23. To find the original number you should <u>subtract</u> 3 from 23 to get 20 _____. Then divide _____ by 5. The original number Multiplying a number by 5 and then adding 3 to get a result of 23 can be written as the equation 5x + 3 = 23To evaluate the expression 5x + 3, we would **multiply** _____ first. and then add _____. When we solve the equation by working backwards, we undo addition first by subtraction ___, and then undo

multiplication by dividing.

Solve: 5x + 3 = 23 Check: 5x + 3 = 23 $5x + 3 - \frac{3}{2} = 23 - \frac{3}{2}$ $5(\frac{4}{2}) + 3 \stackrel{?}{=} 23$ 5x = 20 $\frac{20}{x} + 3 \stackrel{?}{=} 23$ $x = \frac{4}{23}$ $23 = 23 \checkmark$

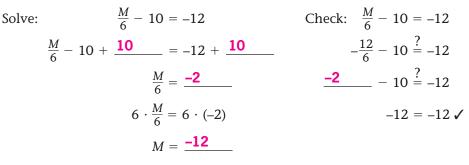
The solution is 4.

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The solution is
$$-12$$

1 Is 2 a solution of the equation -7C - 10 = -4? Check: -7C - 10 = -4 $-7(\frac{2}{-14}) - 10 \stackrel{?}{=} -4$ $-24 \neq -4$

$$-4J - 1 + 1 = 11 + 1$$
$$-4J = 12$$
$$\frac{-4J}{-4} = \frac{12}{-4}$$
$$J = -3$$

2

3

It is not always necessary to show all the "steps", but be sure you can explain all your steps.

Each step has a reason		
Statements	Reasons	
Example: $5x + 3 = 23$	Given	
5x = 23	Subtraction Property of Equality	
x = 4	Division Property of Equality	
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Explain the steps used to solve the equation $\frac{A}{-3} + 12 = 4$.

Statements	Reasons
$\frac{A}{-3} + 12 = 4$	Given
$\frac{A}{-3} = -8$	Subtraction Property of Equality
-3 A = 24	Multiplication Property of Equality

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