3-3 Solving Addition and Subtraction Equations

CCSS: 6.EE.B.7: Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.

Digital Resources

Launch

MP1, MP7

Each row, column, and diagonal in the number square has the same sum.

a	7	2
1	5	*b*
8	*c*	4

2 1 5 0 3 6 8 9 4 7

Find the values of *a*, *b*, and *c*.

a = ____ *b* = ____ *c* = ____

Explain.

Reflect Did you use addition or subtraction to find each missing value? Could you use either operation?

Got It?

PART 1 Got It

Solve the equation $8 + x = 36$.

PART 2 Got It

Each equation shows an operation. For which equation(s) is addition the inverse operation?

I. $b + 27 = 78$ **II.** $25 = g - 19$ **III.** $18 + v = 19$

PART 3 Got It

Write a simpler, equivalent equation to solve $d - 29 = 85$.

Close and Check

Focus Question

MP2, MP7

How do you use addition and subtraction to undo each other? Why might this be helpful in balancing equations?

Do you know HOW?

1. Solve the equation.

$7 + w = 23$

$w =$ ☐

2. Write the inverse operation for each equation shown in the table below. Use **S** for subtraction and **A** for addition.

Equation	Inverse Operation
$12 + r = 47$	
$d - 15 = 4$	
$14 - s = 10$	
$t + 7 = 23$	
$56 + w = 92$	
$y - 8 = 61$	

3. Circle the equation that has a solution of 16.

$x + 6 = 22$ $\quad$ $x - 6 = 22$

Do you UNDERSTAND?

4. Vocabulary What are inverse operations? Give an example.

5. Error Analysis Identify the error in solving the equation and give the correct answer.

$5 + 7 + z = 33$
$12 + z = 33$
$12 + 12 + z = 33 + 12$
$z = 45$