2-5

Name _____ Date _____

Subtracting Integers (Pages 69–72)

The **opposite** of an integer is the number that is the same distance from zero but in the opposite direction. The opposite of any number is called its **additive inverse**. The sum of a number and its additive inverse is zero. $a + (-a) = 0$.

Subtracting Integers	To subtract an integer, add its additive inverse.

EXAMPLES

A Find $7 - (-3)$.

Subtracting -3 is the same as adding the inverse of -3.

$7 - (-3) = 7 + 3$
$= 10$

You can think of this as "taking away a debt of \$3 is the same as adding \$3."

B Find $-5 - 4$.

To subtract 4, add -4.

$-5 - 4 = -5 + (-4)$
$= -9$

Try These Together

1. What is the additive inverse of -5?

HINT: What number is the same distance from zero but on the opposite side of zero on a number line?

2. What is the additive inverse of 8?

HINT: What number added to 8 gives zero?

PRACTICE

3. Write the additive inverse of -21.

Solve each equation.

4. $a = 30 - (-5)$
5. $-20 - (-1) = b$
6. $-8 - 2 = c$
7. $4 - 16 = d$
8. $e = -16 - 8$
9. $12 - (-6) = f$
10. $10 - 2 = g$
11. $h = 120 - (-150)$
12. $62 - (-3) = j$
13. $0 - 18 = k$
14. $m = -26 - 15$
15. $n = -14 - (-2)$

16. Find the value of y for $y = -6 - (-15)$.

17. Find the value of x for $15 - 30 = x$.

18. Evaluate $-10 - b - c$ if $b = 5$ and $c = -5$.

19. Money Matters In 1999, an Internet company had a balance for the year of $-\$200{,}000$. In 2000, they lost another \$150,000. Write a subtraction equation to show how to find the total amount of money they lost in 1999 and 2000.

20. **Standardized Test Practice** Solve the equation $x = -91 - (-102)$.

A -11 **B** -193 **C** 11 **D** 193

Answers: **1.** 5 **2.** −8 **3.** 21 **4.** 35 **5.** −19 **6.** −10 **7.** −12 **8.** −24 **9.** 18 **10.** 8 **11.** 270 **12.** 65 **13.** −18 **14.** −41 **15.** −12 **16.** 9 **17.** −15 **18.** −10 **19.** $-\$200{,}000 - \$150{,}000 = t$ **20.** C