

# Subtracting Integers (Pages 70–74)

To subtract an integer, add its additive inverse or opposite. For any numbers  $a$  and  $b$ ,  $a - b = a + (-b)$ .

## EXAMPLES

**A** Find  $-3 - 4$ .

Rewrite this problem as an addition problem.

$$-3 - 4 = -3 + (-4) \quad \text{To subtract 4, add } -4.$$

The addends have the same sign, so add and keep the same sign.

$$-3 - 4 = -7$$

**B** Evaluate  $a - b$  if  $a = 7$  and  $b = -6$ .

Replace  $a$  and  $b$  with the given values, and rewrite as an addition problem.

$$\begin{aligned} a - b &= 7 - (-6) \\ &= 7 + 6 \quad \text{To subtract } -6, \text{ add } 6. \\ &= 13 \end{aligned}$$

## Try These Together

1. Find  $-7 - (-9)$ .

*HINT: To subtract, add the opposite of  $-9$ .*

2. Evaluate  $x - y$  if  $x = -5$  and  $y = 4$ .

*HINT: Replace  $x$  and  $y$  with the given values, then rewrite as an addition problem.*

## PRACTICE

Find each difference.

3.  $9 - 7$

4.  $-4 - 3$

5.  $4 - (-12)$

6.  $-10 - (-24)$

7.  $6 - 8$

8.  $-11 - (-5)$

9.  $-7 - 9$

10.  $13 - (-2)$

Evaluate each expression if  $x = -3$ ,  $y = 4$ ,  $z = -6$ , and  $w = -1$ .

11.  $x - 12$

12.  $y - z$

13.  $y + z - w$

14.  $x - y + w$

15. **Weather** The record lowest temperature in Hawaii is  $7^\circ\text{F}$ . The record low in North Carolina is  $-34^\circ\text{F}$ . What is the difference between the two temperatures?



16. **Standardized Test Practice** Simplify  $-12 - (-14)$ .

A  $-2$

B  $-16$

C  $16$

D  $2$

Answers: 1. 2 2. -9 3. 2 4. -7 5. 16 6. 14 7. -2 8. -6 9. -16 10. 15 11. -15 12. 10 13. -1 14. -8 15. 41°