

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°F . The record low in North Carolina is -34°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°