## Chapter 12 SUBTRACTING POSITIVE AND NEGATIVE NUMBERS

**NEXTUP:** learning to subtract positive and negative numbers. We already know that subtraction and addition are "opposites" of each other. So, we can use this shortcut:

Change a subtraction problem to an addition problem by using the additive inverse, or opposite!

EXAMPLE: 5-4

The additive inverse of 4 is -4, which we can change to an addition problem, like so: 5-4=5+(-4).

5+(-4)=1

EXAMPLE: 7 - 10

The additive inverse of 10 is -10.

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

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

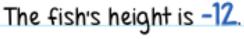
EXAMPLE: 3 - (-1)

The additive inverse of -1 is 1.

$$3 - (-1) = 3 + 1 = 4$$

**EXAMPLE:** A bird is flying 42 meters above sea level. A fish is swimming 12 meters below sea level. How many meters apart are the bird and the fish?

The bird's height is 42.



To find the difference, we should subtract:

$$42 - (-12) = 42 + 12 = 54$$



Answer: They are 54 meters apart.

**EXAMPLE:** 
$$-3 - 14 = -3 + (-14) = -17$$

**EXAMPLE:** 
$$-4 - (-9) + 8 = -4 + 9 + 8 = 13$$

## CHECK YOUR KNOWLEDGE

- 1. 5 (-3)
- 2. 16 (-6)
- 3. -3-9
- **4.** -8-31
- **5.** -14 (-6)
- -100 (-101)
- 7. 11-17
- 8. 84-183
- -12 (-2) + 10
- 10. The temperature at 2:00 p.m. is 27 degrees. At 2:00 a.m., the temperature has fallen to -4 degrees. What is the difference in temperature from 2:00 p.m. to 2:00 a.m.?

ANSWERS

## CHECK YOUR ANSWERS

1. 8

- 2. 22
- **3.** -12
- 4. -39
- **5.** -8
- 6. 1
- **1.** -6
- 8. -99
- 9. 0
- 10. 31 degrees