


Chapter 12

SUBTRACTING POSITIVE AND NEGATIVE NUMBERS



NEXT UP: 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.

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

$$3 + 1 = 4$$

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.

The fish's height is -12.

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. $-14 - (-6)$
6. $-100 - (-101)$
7. $11 - 17$
8. $84 - 183$
9. $-12 - (-2) + 10$
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.?

CHECK YOUR ANSWERS



1. 8

2. 22

3. -12

4. -39

5. -8

6. 1

7. -6

8. -99

9. 0

10. 31 degrees