

Lesson 3-1

Example 1

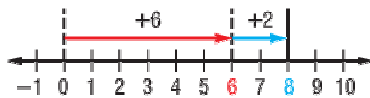
Use a number line to add.

a. $6 + 2$

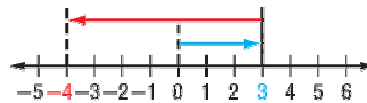
b. $3 + (-7)$

Solution

- a. Begin at 0. Move right 6 places, then 2 places more. The stopping place is +8.
 $6 + 2 = 8$



- b. Begin at 0. Move right 3 places, then left 7 places. The stopping place is -4.
 $3 + (-7) = -4$



Example 2

Add.

a. $-6 + (-5)$

b. $-7 + 12$

c. $-15 + 0$

Solution

- a. $|-6| = 6$ $|-5| = 5$
 Since the signs are the same, add the absolute values.
 $6 + 5 = 11$

Each number is negative, so the sum is negative.
 $-6 + (-5) = -11$

- b. $|-7| = 7$ $|12| = 12$
 Since the signs are different, subtract the absolute values.
 $12 - 7 = 5$

Since 12 has the greater absolute value, the sum is positive.
 $-7 + 12 = 5$

- c. Use the identity property of addition.
 $-15 + 0 = -15$

Example 3**Subtract.**

a. $-9 - (-6)$

b. $-11 - 8$

Solution

a. $-9 - (-6) = -9 + 6$
 $= -3$

b. $-11 - 8 = -11 + (-8)$
 $= -19$

Example 4

WEATHER The highest temperature ever recorded in West Virginia was 112°F in Martinsburg on July 10, 1935. The lowest temperature ever recorded in West Virginia was -37°F in Lewisburg on December 30, 1917. What is the difference between these two temperatures?

Solution

Subtract. $112 - (-37) = 112 + 37 = 149$

The difference between the record high and record low temperatures in West Virginia is 149°F .