Lesson 11-3   Adding Integers

Lesson Objective	NAEP 2005 Strand: Number Properties and Operations
To add integers and to solve problems by adding integers	Topic: Number Operations
	Local Standards: _____

Key Concepts

Adding Integers

Same Signs The sum of two positive integers is positive. The sum of two negative integers is negative.
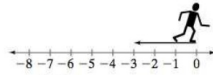
Examples: $2 + 6 = 8$ $-2 + (-6) = -8$

Different Signs Find the absolute value of each integer. Then subtract the lesser absolute value from the greater. The sum has the sign of the integer with the greater absolute value.
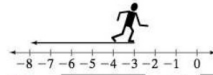
Examples: $3 + (-7) = -4$ $-3 + 7 = 4$

Examples

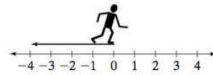**❶ Using a Number Line to Add Integers** Use a number line to find $-3 + (-5)$.

$-8 \ -7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ \ 0$ $-8 \ -7 \ -6 \ -5 \ -4 \ -3 \ -2 \ -1 \ \ 0$

Start at ☐. Face the positive direction.   Then move ☐ 5 units for ☐.

Move ☐ 3 units for -3.   You stop at ☐.

So $-3 + (-5) = $ ☐.

❷ Sports A football team loses 4 yards on one play. On the next play, the team gains 7 yards. Find $-4 + 7$. Use a number line to find the sum.

$-4 \ -3 \ -2 \ -1 \ \ 0 \ \ 1 \ \ 2 \ \ 3 \ \ 4$ $-4 \ -3 \ -2 \ -1 \ \ 0 \ \ 1 \ \ 2 \ \ 3 \ \ 4$

Start at ☐, and face the positive direction.   Then move ☐ 7 units for ☐.

Move backward ☐ units for -4.   You stop at ☐.

The result is a ☐ of ☐ yards.

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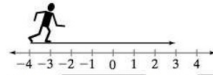
❸ Adding Integers Find $-6 + (-10)$.

$-6 + (-10) = $ ☐
            ↑
The sum of two negative numbers is ☐.

❹ Adding Integers Find each sum.

a. $8 + (-10)$ **b.** $-4 + 16$

$|8| = $ ☐   ← Find the absolute   → $|-4| = $ ☐
$|-10| = $ ☐   value of each integer. $|16| = $ ☐

$10 - 8 = $ ☐   ← Subtract the → $16 - 4 = $ ☐
           absolute values.

            The sum has the sign
$8 + (-10) = $ ☐   ← of the integer with the → $-4 + 16 = $ ☐
            greater absolute value.

Quick Check

1. Use a number line to find each sum.

a. $-1 + (-3)$ **b.** $4 + (-1)$

2. Find $-4 + 1$.

3. Find $-9 + (-12)$.

4. Find $-11 + 4$.