

Section Overview

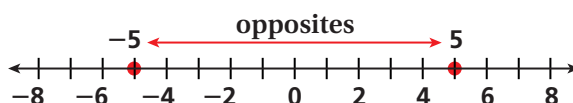
Understanding Integers

Lesson 2-1

Why? Integers are used to represent real-world quantities, such as temperatures below zero.

The **integers** are the set of whole numbers and their **opposites**.

Opposites are the same distance from 0, but on opposite sides of 0.



Integer Operations and Equations

Lessons 2-2 through 2-5

Why? When you know how to operate with integers, you can solve equations and problems involving integers.

Operation	Rule	Examples
Add integers with the same sign.	Find the sum of their absolute values. Then use the sign of the integers.	$5 + 4 = 9$ $(-6) + (-2) = -8$
Add integers with different signs.	Find the difference of their absolute values. Then use the sign of the integer with the greater absolute value.	$9 + (-3) = 6$ $-8 + 7 = -1$
Subtract integers.	To subtract an integer, add its opposite.	$2 - (-3) = 2 + 3 = 5$ $-7 - 1 = -7 + (-1) = -8$
Multiply or divide integers.	If the signs are the same, the answer will be positive. If the signs are different, the answer will be negative.	$4 \cdot 5 = 20$ $-24 \div -6 = 4$ $-8 \cdot 3 = -24$ $36 \div -4 = -9$

When solving equations with integers, the goal is the same as with whole numbers—*isolate the variable on one side of the equation.*

$$\begin{aligned}
 -8z &= -72 \\
 \frac{-8z}{-8} &= \frac{-72}{-8} \\
 z &= 9
 \end{aligned}$$

Divide both sides by -8 .