Big Ideas Math: California Course 2 Accelerated

Parent Newsletter

Chapter 1: Integers

Key Terms

Integers are the set of whole numbers and their opposites.

The ***absolute value*** of an integer is the distance between the number and 0 on a number line.

Two numbers that are the same distance from 0, but on opposite sides of 0, are called ***opposites.***

The sum of an integer and its ***additive inverse,*** or opposite, is 0.

Students will...

Define the absolute value of a number.

Find absolute values of numbers.

Add integers.

Show that the sum of a number and its opposite is 0.

Subtract integers.

Multiply integers.

Divide integers.

Solve real-life problems.

Standards

California Common Core:

7.NS.1: Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

7.NS.2: Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

7.NS.3: Solve real-world and mathematical problems involving the four operations with rational numbers.

Key Ideas

Additive Inverse Property

- The sum of an integer and its additive inverse, or opposite, is 0.
- $a + (-a) = 0$

Multiplying Integers with the Same Sign

- The product of two integers with the same sign is positive.

Multiplying Integers with Different Signs

- The product of two integers with different signs is negative.

Dividing Integers with the Same Sign

- The quotient of two integers with the same sign is positive.

Adding Integers with the Same Sign

- Add the absolute values of the integers.
- Then use the common sign.

Adding Integers with Different Signs

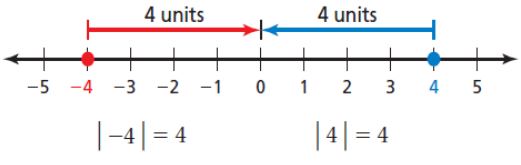
- Subtract the lesser absolute value from the greater absolute value.
- Then use the sign of the integer with the greater absolute value.

Dividing Integers with Different Signs

- The quotient of two integers with different signs is negative.

Absolute Value

- The absolute value of an integer is the distance between the number and 0 on a number line.
- The absolute value of a number a is written as $|a|$.



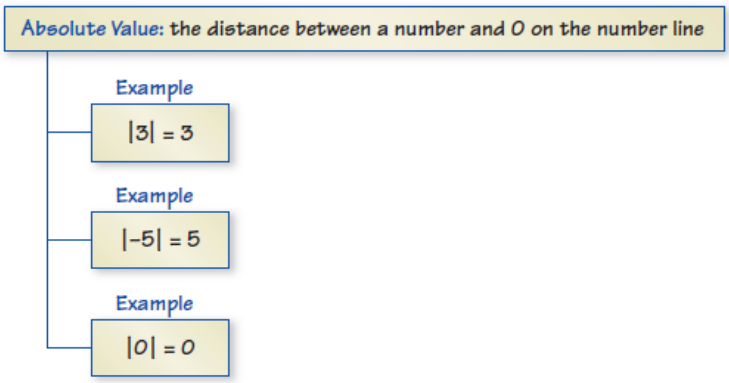
Games

- Choose Wisely
- Top This
- Right on Target
- 5 is Alive
- 6 Sticks
- 7 Not 11
- 8 is Great
- 9 is Fine
- Can 3=2?
- More Fours

These are available online in the *Game Closet* at www.bigideasmath.com.

Reference Tools

An **Idea and Examples Chart** can be used to organize information about a concept. Fill in the top rectangle with a term and its definition or description. Fill in the rectangles that follow with examples to illustrate the term. Each sample answer shows 3 examples, but your student can show more or fewer examples. Idea and examples charts are useful for concepts that can be illustrated with more than one type of example.



Essential Questions

How can you use integers to represent the velocity and the speed of an object?

Is the sum of two integers *positive*, *negative*, or *zero*? How can you tell?

How are adding integers and subtracting integers related?

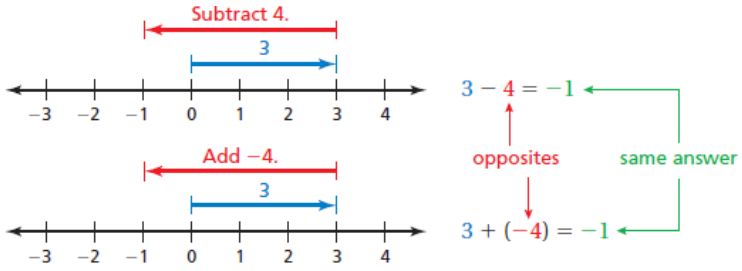
Is the product of two integers *positive*, *negative*, or *zero*? How can you tell?

Is the quotient of two integers *positive*, *negative*, or *zero*? How can you tell?

Key Ideas

Subtracting Integers

- To subtract an integer, add its opposite.



Quick Review

- A number line can be used to compare and order integers.
  - Numbers to the left are less than numbers to the right.
  - Numbers to the right are greater than numbers to the left.
- Division by 0 is undefined.
- The absolute value of a number is always a positive number or zero.
- When both factors have the same sign, the product is positive.
- When the factors have different signs, the product is negative.

What's the Point?

The ability to understand and work with integers is very useful in real life for events like measuring rainfall. Have your student collect rain water from the next few storms and measure the amount of collected water in whole centimeters. Record this data and have them plot the data on a number line. Which storm produced the most rain? What is the difference between the lightest rainfall and the heaviest rainfall?

The STEM Videos available online show ways to use mathematics in real-life situations. The Chapter 1: Freezing Solid STEM Video is available online at www.bigideasmath.com.