Lesson 7: Addition and Subtraction of Rational Numbers

Classwork

Exercise 1: Real-World Connection to Adding and Subtracting Rational Numbers

Suppose aseventh grader’s birthday is today, and she is years old. How old was she years ago? Write an equation, and use a number line to model your answer.

Example 1: Representing Sums of Rational Numbers on a Number Line

1. Place the tail of the arrow on .
2. The length of the arrow is the absolute value of . **NOTE:** .
3. The direction of the arrow is to the *left* since you are adding a negative number to .

Draw the number line model in the space below.

Exercise 2

Find the following sum using a number line diagram: .



Example 2: Representing Differences of Rational Numbers on a Number Line

Find the following difference, and represent it on a number line: .



Now follow the steps to represent the sum:



Draw the number line model in the space below.

Exercise 3

Find the following difference, and represent it on a number line: .



Exercise 4

Find the following sums and differences using a number line model.



Exercise 5

Create an equation and number line diagram to model each answer.

1. Samantha owes her father . She just got paid for babysitting. If she gives that money to her dad, how much will she still owe him?
2. At the start of a trip, a car’s gas tank contains gallons of gasoline. During the trip, the car consumes gallons of gasoline. How much gasoline is left in the tank?
3. A fish was swimming feet below the water’s surface at 7:00 a.m. Four hours later, the fish was at a depth that is feet below where it was at 7:00 a.m. What rational number represents the position of the fish with respect to the water’s surface at11:00 a.m.?

