## Lesson 5: A New Way to Interpret over

Let's investigate what a fraction means when the numerator and denominator are not whole numbers.

### 5.1: Recalling Ways of Solving

Solve each equation. Be prepared to explain your reasoning.

### 5.2: Interpreting

Solve each equation.

#### Are you ready for more?

Solve the equation. Try to find some shortcuts.

### 5.3: Storytime Again

Take turns with your partner telling a story that might be represented by each equation. Then, for each equation, choose one story, state what quantity describes, and solve the equation. If you get stuck, consider drawing a diagram.

### Lesson 5 Summary

In the past, you learned that a fraction such as can be thought of in a few ways.

* is a number you can locate on the number line by dividing the section between 0 and 1 into 5 equal parts and then counting 4 of those parts to the right of 0.
* is the share that each person would have if 4 wholes were shared equally among 5 people. This means that  is the result of *dividing* 4 by 5.

We can extend this meaning of *a fraction as a quotient* to fractions whose numerators and denominators are not whole numbers. For example, we can represent 4.5 pounds of rice divided into portions that each weigh 1.5 pounds as: . In other words,  because the quotient of 4.5 and 1.5 is 3.

Fractions that involve non-whole numbers can also be used when we solve equations.

Suppose a road under construction is finished and the length of the completed part is miles. How long will the road be when completed?

We can write the equation to represent the situation and solve the equation.

The completed road will be or about 3.6 miles long.



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