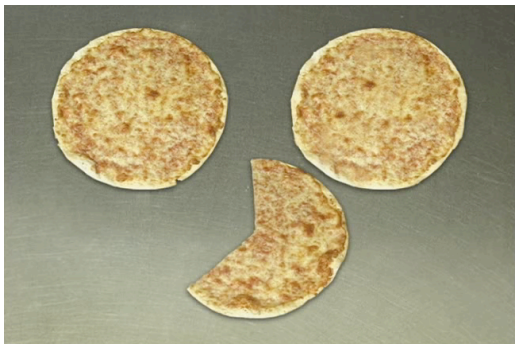
Mixed Numbers
A Closer Look at the Video

After watching the *Mixed Numbers* video, make sense of the mathematics by taking a closer look at the problem situation and solution. Use the questions and comments in bold to help you solve the problem.

A mixed number is a combination of a whole number and a fraction. For example, $3\frac{1}{4}$ is a mixed number. Another way to write this number is by using an improper fraction. An improper fraction is a fraction where the numerator is larger than the denominator. The mixed number $3\frac{1}{4}$ is equal to $\frac{13}{4}$, an improper fraction. Numbers can look different but still represent the same amount. It is important to be able to represent fractions using both mixed numbers and improper fractions.

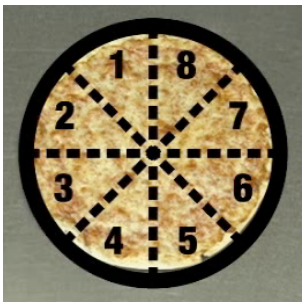
In the *Mixed Numbers* video, Kenny, the cook at a pizza shop, has a problem! Seven hungry kids ordered a total of three large pizzas. However, Kenny ran out of dough and could only make two full pizzas and part of a third pizza.



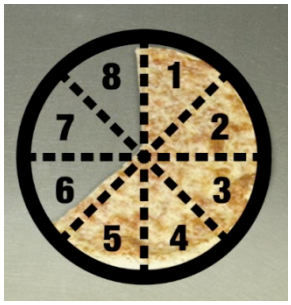
What mixed number represents the total amount of pizza? The total amount of pizza is two full pizzas and $\frac{5}{8}$ of another pizza. Kenny's mixed number is $2\frac{5}{8}$.

Kenny wants to cut the pizzas so all the kids get the same amount. Kenny usually cuts the pizzas into eight equal slices. So there are eight equal slices in one pizza.

What improper fraction represents the total amount of pizza? There are two full pizzas, so two pizzas times eight slices is 16 slices. There are also five slices in the third pizza, making a total of 21 slices of pizza. Each slice is $\frac{1}{8}$ of a pizza, so $\frac{21}{8}$ represents the total amount of pizza.



2 x 8 = 16 slices

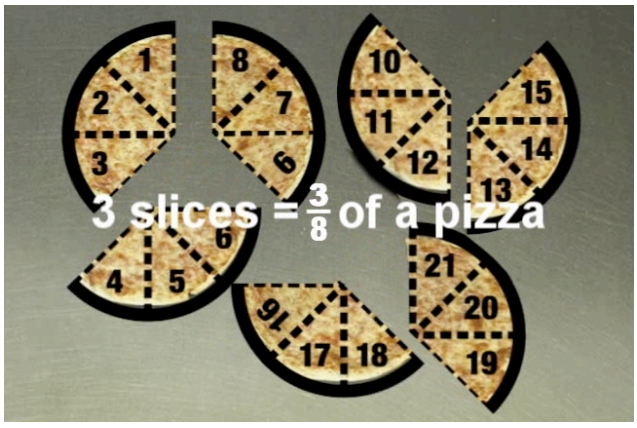


5 slices

The diagram shows two full pizzas plus five eighths of a pizza, which equals twenty-one eighths.

$$2\frac{5}{8} = \frac{21}{8}$$

If all of the seven people get the same amount of pizza, how many slices will each person receive? Kenny can divide the 21 slices of pizza among the seven people. Each person gets three slices or $\frac{3}{8}$ of a pizza.



The purpose of representing and solving problems with a model, like pizza, is to develop an understanding of mixed numbers and improper fractions. Being able to use these kinds of numbers interchangeably will help you to solve problems involving sharing.