Fractional Parts of a Number
Video Script

Scene		Full Transcript
1	**KT:**	Today, I'm at Rocko's Guitars getting my guitar restrung. I've been coming here for years and often just stop by to listen to all the great players. I'm like a little kid in a candy store.
2	**KT:**	The assistant manager, Brian, asked me to figure out a solution to the math problem he's been experiencing while getting ready for the students' recital. He thinks he needs to use a double number line, but said it's been quite awhile. I told him, "you take care of the guitars, and I'll take care of the math." Why don't we "get in tune" and get another *Problem Solved*.
3	**KT:**	Brian needs to make certificates and order food for the students' recital next week, but he's having trouble pinning Rocko down on how many students to plan for. Rocko is a great guy and an amazing player, but he has this quirky habit of throwing out fractions when he's talking. One sixth of this, $\frac{5}{16}$ of that; it's hard to know what he's talking about. I'm all about math, but that is a little weird. The shop's upcoming recital is a perfect example. Two classes of guitar players and one class of drummers will play, and right now Brian needs to figure out how many students from the morning class will attend. Rocko said that $\frac{2}{5}$ of the class will be there. Brian checked, and there are 20 students in that class. How many will perform?
	Voice-Over KT:	The double number line we use looks like this. It helps us make sense of our class, students, and the fraction. The first number line represents the morning class. The second number line represents the 20 students. Because Rocko's fraction is in fifths, we divide the class into five equal parts. Here is $\frac{2}{5}$. If the morning class is divided into fifths, we need to do the same for the 20 students. Each fifth must have four students in it, right? Then $\frac{2}{5}$ of the class is eight students. Sound about right? Good.
4	**KT:**	Double number lines are just a couple of lines that help make sense of fraction word problems. You can really understand the relationship that's going on between numbers and even solve the problem as we're learning the specific, step-by-step math procedures. And they help you estimate the

		answer in your head using what instructors call proportional reasoning. They have one more rehearsal before the big night. Brian needs to send out reminder notes to all the evening students to come. Twelve students in that class signed up to be there, which Rocko said was $\frac{2}{3}$ of the class. How many students are in the evening class? By placing our numbers on a double number line, we can see how understanding a fraction on one line helps us determine any amount on the other.
	Voice-Over KT:	If we divide the evening class into thirds, we see that $\frac{2}{3}$ is right here. We know from Rocko that $\frac{2}{3}$ of the class is 12, so we put 12 on our second line. We can see from the line that our answer must be larger than 12. But how many are in the class? One third is half of $\frac{2}{3}$, and we know that half of 12 is 6. So if $\frac{1}{3}$ is 6 and $\frac{2}{3}$ is 12, then if we add another third, we can calculate there must be 18 students in the class.
5	**KT:**	I've always wanted to play the drums too, but my friends say my timing is all off. They don't know what they're talking about. One, two, three, four! Well, maybe they do.
6	**KT:**	Anyway, while Brian was finishing my guitar, he said he thought that Rocko might change his fractioning ways if he got a taste of his own medicine. Rocko asked how many students from the drum class would be attending the recital.
	Voice-Over KT:	Brian knew there were 24 students in the class. Only six could make the recital. What fraction of students can make the recital? This is pretty easy. If there had been 12 students, our fraction would have been half of the 24 students that were in the class. But, since 6 is half of 12, and 6 is one quarter of 24, our fraction must be $\frac{1}{4}$.
7	**KT:**	Maybe Rocko will learn his lesson. I kind of doubt it. Just a few more lessons and I'll be ready for a recital myself. Or maybe I'll just listen. *Problem Solved*. *Problem Solved*.