PROBLEM SOLVED
MAKING SENSE OF MATHEMATICS

# Subtracting Fractions
## Video Script

| Scene | | Full Transcript |
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| 1 | **Mia:** | This is beautiful! Hi, it's Mia, and I'm down here at Northern Lights where my friend, Susan, is taking a stained glass class. Stained glass makers need to be very precise when measuring because glass is expensive, and they don't want to let any go to waste. Susan is struggling with subtracting fractions. Let's help her and see if we can get another *Problem Solved*. Because then, she can make something for me! |
| 2 | **Voice-Over Mia:** | First, Susan lays out the pattern, and then she determines how much of each color of glass she will need to complete the project. |
| | **Mia:** | She is going to start with a $4\frac{1}{2}$ inch piece of blue glass, but the section of the window she is working on only requires a $1\frac{3}{4}$ inch piece of glass. |
| 3 | **Voice-Over Mia:** | This model represents our $4\frac{1}{2}$ inch piece of blue glass. Susan needs to subtract $1\frac{3}{4}$ inches from the original $4\frac{1}{2}$ inch piece. One way to subtract fractions is to find a common denominator. When the denominators are similar, which means one is a multiple of the other, the numerically larger of the two is the common denominator.<br><br>Four is a multiple of two, so four is the common denominator. One half is equivalent to $\frac{2}{4}$. Next, we begin our subtraction. We need to take away $\frac{3}{4}$ from $\frac{2}{4}$, but we obviously can't do that. We can represent 1 inch as $\frac{4}{4}$. Add those fourths to the remaining $\frac{2}{4}$ and you get $\frac{6}{4}$. So, $4\frac{2}{4}$ is equivalent to $3\frac{6}{4}$. Our new problem becomes $3\frac{6}{4}$ minus $1\frac{3}{4}$. We can do that. Six fourths minus $\frac{3}{4}$ is $\frac{3}{4}$. Three minus 1 is 2. Our final answer is $2\frac{3}{4}$. So, $2\frac{3}{4}$ inches of glass is left over to use for a later project. I am sure she will use that somewhere. |
| 4 | **Mia:** | Did you know that glass does not have a pigment in it like oil paints? Because there are no pigments, there is nothing to fade. This glass will be just as brilliant a century from now as it is today!<br>What's just as brilliant is using a math model when subtracting fractions. |



MakingSense

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| **Voice-Over Mia:** | It should help you visualize and think through each step of the process. Susan is going to find that models will help her no matter how large or small her project. |
| **Mia:** | I love this color! Hey, Susan, can you make me one of these? Well, subtracting fractions should be as clear as, well, glass. That's another *Problem Solved*. |