Add Unlike Fractions

Hello. This is Ms. Stevens, and today I'm going to be helping you with problems where you need to add unlike fractions. Let's look at our steps. Step 1, we're going to convert to equivalent fractions with like denominators. And then step 2, we're going to add.

All right, let's look at our first example. We have 1/3 plus 4/9. Well, if you look at your denominators, there's a 3 and a 9. These are unlike denominators because they are not the same. So unlike denominators-- they're not alike-- denominators.

So when adding with unlike denominators, what we need to do is change these into equivalent fractions that have like denominators. When you're adding, you need to have like denominators. All right, well, I've drawn these fraction bars to help us visualize how we're adding 1/3 and 4/9.

All right, well, we have our 1 bar to compare. And then we have 1/3 right here, right? So that's here, 1/3. And then we have 4/9, 1, 2, 3, 4. Now, if we change these into ninths-- here's ninths. All right, so we have 1/9, 1/9, and 1/9. All right, now, we can see that 1/3 plus 1/9-- I'm sorry, plus 4/9 1, 2, 3, 4, 5, 6, 7/9. So it equals 7/9.

Now, without using these fraction bars, how did we get that answer? Well, 1/3 plus 4/9-- now, a common denominator here is going to be-- a like denominator here is going to be 9, right? So we can change 1/3-- excuse me-- change 1/3 into ninths. So we divide. 9 divided by 3 is 3. 3 times 1 is 3, so we get 3/9.

Now, we're adding 3/9 plus 4/9. We got our equivalent fraction here with a like denominator as our other fraction. So now we're adding 3/9 plus 4/9. Well, 3/9 plus 4/9 equals 7/9, and that's how we get it without using our fraction bars.

All right, let's try 2/4 plus 1/12. Well we need to get an equivalent fraction for 2/4-- why do I keep doing that-- 2/4 with a common denominator, so 12 is going to be my common denominator here.

So 12 divided by 4 is 3 times 2 is 6, and there's my equivalent fraction with the like denominators. So now we can add. 6/12 plus 1/12 equals 7/12. So our answer here is 7/12.

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Now, I want you to try this-- 3/5 plus 2/10. Is the answer a, 6, b, 8/10, or c, 5/10? Try it out.

If you answered b, 8/10, excellent job. Let's see how we go that answer. Ooh, that's big.

All right, so let's see. We have 3/5 plus 2/10. And then we got our equivalent fraction here of 6/10. So then we were left with 6/10 plus 2/10 which equals 8/10.

Now we have a word problem. Cruz ate 3/16 of a cake and Laura ate 5/8 of a cake. How much did they eat combined? Well, combined tells us it's going to be an addition problem. So try it out. Is it 8/16, b, 8/8, or c, 13/16?

OK, if you answered c, 13/16, great job. Let's see how we go that answer. We took the amount that Cruz ate, which was 3/16, and we added it to the amount that Laura ate, which was 5/8. We got an equivalent fraction here for 5/8 that had sixteenths or 16 as its denominator, and it was 10/16. So 3/16 plus 10/16 equals 3/16.

All right, that's all there is to it. So what we needed to do was to find equivalent fractions with like denominators, and then we added. So I hope you have fun adding unlike fractions.