

Preliminary Exercises

1. If a classroom has 12 students and 4 of them have sandwiches in their lunches, what fraction of students do not have sandwiches in their lunches?

2. Find the sum or difference:

$$\frac{1}{3} + \frac{1}{3} = \qquad \frac{4}{7} - \frac{1}{7} = \qquad \frac{12}{29} + \frac{13}{29} =$$

3. Find the missing numbers:

$$\frac{3}{4} = \frac{\quad}{8} \qquad \frac{1}{3} = \frac{6}{\quad} \qquad \frac{2}{9} = \frac{\quad}{36}$$

4. What must be true about fractions to add them together?

Finding a common denominator

When we want to add or subtract fractions that don't have the same denominator, we can use *equivalent fractions* to change one or more of the fractions so they all have the same denominator.

EXAMPLE: Find the sum.

$$\frac{1}{2} + \frac{1}{4} =$$

We start by finding a factor common to the denominators of the fractions to be summed. In this case, 2 and 4 have a common factor of 4. Now solve the following equivalent fractions question:

$$\frac{1}{2} = \frac{\quad}{4}$$

We plug our answer into the original sum to solve our original question:

$$\frac{\quad}{4} + \frac{1}{4} =$$

Now you try using equivalent fractions to find a *common denominator* and add or subtract fractions.

5. $\frac{1}{3} + \frac{1}{6} =$

6. $\frac{1}{7} + \frac{3}{14} =$

7. $\frac{5}{8} - \frac{3}{24} =$

8. $\frac{2}{3} - \frac{1}{4} =$

9. I am making 2 types of holiday cookies, and both recipes call for butter, milk, sugar, and salt. When I make a grocery list, I want to write down the *total* amount of each ingredient I need. Help me sum the ingredient amounts!

	RECIPE 1	RECIPE 2	TOTAL AMOUNT NEEDED
Butter	1/8 c	1/4 c	
Milk	2/3 c	2/9 c	
Sugar	1/2 c	1/3 c	
Salt	1/8 t	2/16 t	

HINT: If we want to find the total amount of butter we need, $\frac{1}{8}\text{c} + \frac{1}{4}\text{c}$, we need to use equivalent fractions techniques to get 2 fractions with the same denominator.

10. Write a question about fractions that a classmate could answer after this lesson:

Question:

Answer: