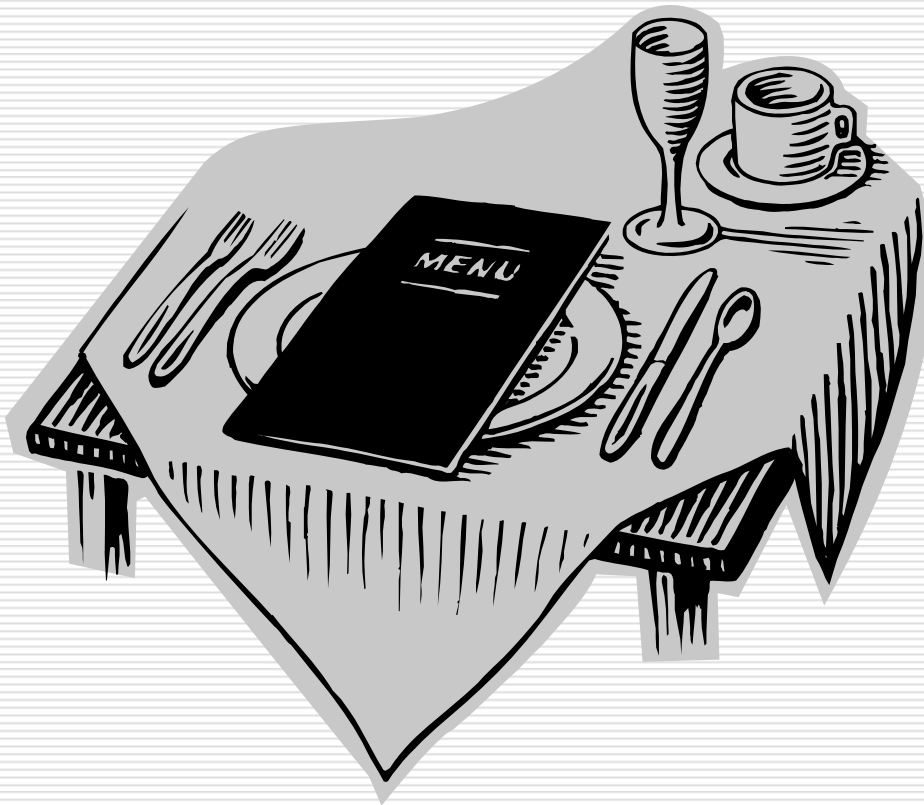


Math on the Menu



By Lauren

Using Fractions on the Job

I am a chef, and I use fractions everyday on the job.

My job involves measuring. Most of the time, the things I must measure are fractional amounts, like $\frac{1}{2}$ teaspoon, $\frac{3}{4}$ tablespoon, or $2 \frac{1}{3}$ cups.

Sometimes, I need to make more or less of something than usual, so I must add, subtract, multiply, or divide fractions to figure out the right amount to add or delete from a recipe.

In order for me to do my job right, I must understand how to work with fractions.

How Important Fractions Are to Getting My Job Done Right

If I don't measure correctly or figure out just how much of something I need to add into a mixture when I cook, then the food I make won't taste very good.

If my food doesn't taste good, I might lose my job or go out of business.

People who go to my restaurant count on the food tasting great. If I add too much flour or not enough salt, the food might turn out too dry or not flavorful enough.

So, if I want to be successful and do my job right, understanding fractions is really important.

How a Chef's Use of Fractions Relates to Me Personally

If I go to a restaurant and the chef doesn't understand fractions and gets the measurements all wrong, the food I order off the menu won't taste good.

If the food doesn't taste good, I won't eat much of it, and I will still be hungry. Not only that, but my parents will have wasted their money on bad-tasting food.

If the food doesn't taste very good, we won't go to that restaurant again.

Although the bad food probably won't hurt me, I won't be very happy.

How I Use Fractions Like a Chef

Although I probably won't be a chef when I grow up, I do like to bake cookies and help cook dinner.

When I help cook, I must use fractions too. Just like a chef, I need to know how to follow a recipe and measure ingredients that are in fractional parts.

Sometimes, I must double or half a recipe too, which means knowing even more about fractions.

So, even though I am only 11 years old, I need to know how to deal with fractions if I want the food I cook to taste good, just like a real chef.

My Real-World Fraction Problem

A couple of weeks ago, I helped bake cookies for the school fair. We needed to double the recipe because we had to make 8 dozen cookies instead of just 4 dozen cookies.

To double the cookie recipe, I needed to know how to add, simplify, and change fractions.



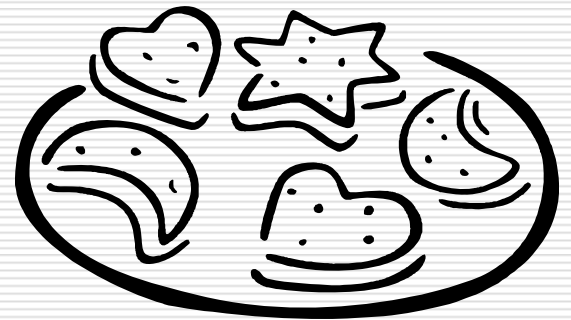
In order to make the cookies so they turned out just right, I had to solve a real-world fraction problem. I call my problem...Double Trouble.

Double Trouble

To **double** the recipe, I had to **add** 6 different fractions to figure out how much butter, sugar, water, vanilla, baking soda, and oats to put in.

$\frac{3}{4}$ cup butter
1 cup brown sugar
 $\frac{1}{2}$ cup sugar
1 egg
 $\frac{1}{4}$ cup water

$1 \frac{1}{2}$ tsp vanilla
1 cup flour
1 tsp salt
 $\frac{1}{2}$ tsp baking soda
 $2 \frac{3}{4}$ cups of oats



A **fraction** is a number used to name a part of a group or a part of a whole. The number above the bar is the **numerator**, and the number below the bar is the **denominator**.

Adding Fractions

To **add** the **fractions**, I had to have a **common denominator**, which meant the **bottom numbers** had to be the same.

That part was already done for me because doubling the recipe meant I just had to add the same number twice.

$\frac{3}{4}$ cup butter + $\frac{3}{4}$ cup butter

4 was my common denominator.

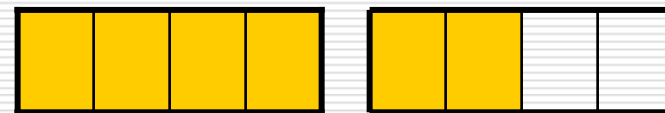


Adding Fractions



Once I had a common denominator, I had to **add** the **numerators** and keep the same denominator.

$$\begin{array}{r} \frac{3}{4} \text{ cup butter} \\ + \frac{3}{4} \text{ cup butter} \\ \hline \frac{6}{4} \text{ cups butter} \end{array}$$



Simplifying Fractions

Since both **6** and **4** can be divided by **2**, my fraction could be reduced.

$$6 \div 2 = 3 \text{ and } 4 \div 2 = 2 \text{ which} = 3/2$$

Then I had to change it to a **mixed number**, because the numerator was bigger than the denominator.

$$3 \div 2 = 1\frac{1}{2}$$

So I needed **1½** cups of butter

Problem Solved!

Because I knew how to **add, simplify, and change fractions**, I was able to **double** all of the **fractions** in the recipe.

$\frac{3}{4}$ cup shortening

$$\frac{3}{4} + \frac{3}{4} = \frac{6}{4} \text{ or } \frac{3}{2} = 1 \frac{1}{2} \text{ cups}$$

$\frac{1}{2}$ cup sugar

$$\frac{1}{2} + \frac{1}{2} = \frac{2}{2} \text{ or } \frac{1}{1} = 1 \text{ cup}$$

$\frac{1}{4}$ cup water

$$\frac{1}{4} + \frac{1}{4} = \frac{2}{4} \text{ or } \frac{1}{2} = \frac{1}{2} \text{ cup}$$

1 $\frac{1}{2}$ tsps vanilla

$$\frac{3}{2} + \frac{3}{2} = \frac{6}{2} \text{ or } \frac{3}{1} = 3 \text{ tsps}$$

$\frac{1}{2}$ tsp baking soda

$$\frac{1}{2} + \frac{1}{2} = \frac{2}{2} \text{ or } \frac{1}{1} = 1 \text{ tsp}$$

2 $\frac{3}{4}$ cups of oats

$$1\frac{1}{4} + 1\frac{1}{4} = \frac{22}{4} \text{ or } 1\frac{1}{2} = 5 \frac{1}{2} \text{ cups}$$

Math on the Menu Conclusions

I learned that knowing how to do math and understanding fractions is really important and that many people need to know fractions in order to do their jobs.

Chefs need to know fractions so that they can bake and prepare items on a restaurant menu.

Chefs must also know how to double, triple, and sometimes half measurements on recipes. This means they need to understand fractions.

If I want to bake or cook something, I need to know how to work with fractions too.

Knowing Fractions Makes My Life Easier

It helps ME to figure out ...

- How to double a recipe when I cook
- What “quarter to four” means
- How much taller I’ve really grown when it is not quite a whole inch

Even though I don’t plan to be a chef when I grow up, I may have a job that will require me to use fractions too!
