Calculating Fractions: A Step-by-Step Guide

Fractions can be a tricky concept to grasp, especially when it comes to performing calculations. But with a little bit of practice and understanding, you'll be able to solve fraction problems with ease. In this guide, we'll go over the basics of calculating fractions and provide examples to help you understand the process.

What is a fraction?

First, it's important to understand the structure of a fraction. A fraction is made up of two parts: the numerator and the denominator. The numerator represents the number of parts you have, and the denominator represents the total number of parts in the whole. For example, in the fraction 3/4, 3 is the numerator and 4 is the denominator. This means that you have 3 parts out of 4 total parts.

$$\frac{3}{4} = \frac{Numerator}{Denominator}$$

Before we calculate fractions, you need to know that fractions can be reduced and fractions can be expanded without changing their value.

Reduce or simplify fractions

Simplifying a fraction means that you can divide the numerator of the fraction and the denominator of the fraction by the same number. You can write 12/15 as 4/5 because you can divide 12 by 3 and divide 15 by 3.

$$\frac{12}{15} = \frac{12:3}{15:3} = \frac{4}{5}$$

Expand fractions

Expanding fractions means that you multiply the numerator of a fraction and the denominator of a fraction by the same number. If we expand the fraction 2/5 with 3 we get 6/15.

$$\frac{2}{5} = \frac{2 \cdot 3}{5 \cdot 3} = \frac{6}{15}$$

When calculating fractions, there are a few key operations you'll need to know: addition, subtraction, multiplication, and division.

Add fractions

To add fractions, the denominators must be the same. For example, to add 1/2 and 3/4, you would first find a common denominator of 4. Then, you would add the numerators (2 + 3 = 5) and write the result as 5/4.

$$\frac{1}{2} + \frac{3}{4} = \frac{2}{4} + \frac{3}{4} = \frac{2+3}{4} = \frac{5}{4}$$

Subtract fractions

To subtract fractions, you have to do the same thing as adding fractions, but instead of adding the numerators, you now have to subtract them. For example, to subtract 1/2 from 3/4, you need to find a common denominator of 4, then subtract the numerators (3 - 2 = 1) and write the result as 1/4.

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

Multiply fractions

To multiply two fractions, simply multiply the numerators of the fractions together and the denominators of the fractions together. For example, to multiply 1/2 and 3/4, you need to multiply 1 by 3 and 2 by 4, which is 3/8.

$$\frac{1}{2} \cdot \frac{3}{4} = \frac{1 \cdot 3}{2 \cdot 4} = \frac{3}{8}$$

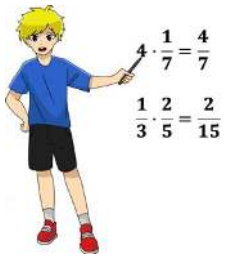
Divide fractions

To divide fractions, you need to flip the second fraction, also called "reciprocal," and then multiply the fractions. For example, to divide 1/2 by 3/4, you need to flip the second fraction. Then 3/4 becomes 4/3, and then you multiply 1/2 and 4/3, which shortens to 2/3.

$$\frac{1}{2} : \frac{3}{4} = \frac{1}{2} \cdot \frac{4}{3} = \frac{4}{6} = \frac{2}{3}$$

By following these steps, you will be able to perform calculations with fractions. With a little bit of practice, you'll be able to solve fraction problems with ease.

In conclusion, calculating fractions may seem difficult, but with a little bit of practice and understanding, it's a straightforward process. Remember, a fraction is made up of two parts: the numerator and the denominator. When adding, subtracting, multiplying or dividing fractions, the denominators must be the same or you should flip the second fraction before multiplying. With this guide as a reference, you'll be a pro at calculating fractions in no time.



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