

When do you multiply in a fraction?

Explanation:

Number composed of one or several equal parts units called fraction (common fraction). For example, one-fifth $\frac{1}{5}$, two-thirds $\frac{2}{3}$ of one second $\frac{1}{2}$. Fraction is represented by two natural numbers and stroke. Written below the line number indicating how many shares split unit. It is called the denominator of the fraction. Above the line write the number showing how many shares contained in the fraction. It is called the numerator of the fraction. The numerator and denominator of the fraction are called members.

Multiplication by an integer fraction can be understood as well as the multiplication of an integer by an integer, in other words, addition of the same terms. For example:

$$\frac{2}{3} \times 4 = \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{8}{3}$$

However, for the multiplication of this interpretation does not fit. The product fractions is called a fraction, the numerator of which is the product of the numerators of these fractions, and the denominator, respectively, the product of the denominators:

$$\frac{a}{n} \times \frac{b}{m} = \frac{a \times b}{n \times m}$$

From this definition we can formulate the rule of multiplication of fractions: To multiply a fraction by a fraction, multiply the numerator by the numerator and the denominator by the denominator and the numerator of the first work done, and the second denominator:

$$\frac{a}{b} \times \frac{c}{d} = \frac{ac}{bd}$$

When multiplying the simplification should be done (if possible). For example,

$$\frac{8}{9} \times \frac{3}{4} = \frac{24}{36} = \frac{24 \div 12}{36 \div 12} = \frac{2}{3}$$

To multiply mixed numbers, you must first convert them to improper fractions and then multiply in accordance with the rule of multiplication of fractions. For example,

$$2\frac{1}{2} \times 3\frac{1}{5} = \frac{5}{2} \times \frac{16}{5} = 8$$