

**Calculation with ordinary fractions**

School grade: K7/K8

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# **The amount**

The sum of two fractions with the same denominator is the fraction whose numerator is equal to the sum of the numerators of the two fractions, and the denominator is the common denominator of the two fractions:

 , for any natural numbers  , cu .

Example:



# **The difference**

The difference of two fractions with the same denominator is the fraction whose numerator is equal to the difference of the numerators of the two fractions, and the denominator is the common denominator of the two fractions:

 , for any natural numbers  , cu  .

Example:



To add or subtract two fractions with different denominators, proceed as follows:

• first bring the fractions to a common denominator;

• add or subtract the fractions obtained using the rules for adding or subtracting fractions with the same denominator.

Example:





# **The product**

The product of a natural number and a fraction is a fraction in which:

• the numerator is the product of the respective natural number and the numerator of the given fraction;

• the denominator is the same as the denominator of the given fraction.

 , for any natural numbers , where .

Example:



The product of two ordinary fractions is a fraction in which:

• the numerator is equal to the product of the numerators of the two given fractions;

• the denominator is equal to the product of the denominators of the two given fractions.

, for any natural numbers , where .

Example:



# **The inverse of the ordinary fraction**

The inverse of the ordinary fraction    , where a and b are nonzero natural numbers, is the ordinary fraction  .

Example: Inverse of fraction  is the fraction  .

The product of a fraction and its inverse equals 1:

 , for any nonzero natural numbers a, b.

The quotient of two ordinary fractions, the second of which is nonzero, is equal to the product of the first fraction and the inverse of the second fraction:

, where .

Example:  .

# **Exercises**

From a cake divided into 9 equal slices, Vlad ate 2 slices, and Andrei one more than Vlad.

Write the amounts of cake eaten by the two boys as ordinary fractions.

What fraction of the cake did the two boys eat in total?

What fraction of the cake is the remaining piece?

Vlad and Andrei go on an expedition. On the first day they traveled  from the route, the next day  from the route, and the third day the rest of the route.

What part of the route did they cover in the first two days?

What part of the route do they still have to go on the third day?

Vlad still has  from the tart prepared by his mother. At lunch, he ate  from the remaining piece.

What fraction of the pie did he eat?

How much of the pie is the remaining piece?

A tailor makes scarves. How many scarves can be made from a cloth of 4 dies, if for each scarf is used  meters?

Vlad runs  kilometers every day. How many days does he have to run to cover the total  kilometers?