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# Analysis of the order of multiplication and division operations on fractions and related examples

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## Abstract

This article teaches calculus with many conveniences for students who are new to mathematics. The basic, initial part of mathematics is closely related to the word "fraction". The first step in mathematics is represented by the concept of fractions, so this article provides general and detailed information to make it clear and understandable to all students.

## Keywords

Fractions, proper fractions, improper fractions, multiplication by fractions, division by fractions.

Education is our future, a matter of life and death. Therefore, we have no right to delay reforms in this area.

No matter how complicated it may be, we need to lay a solid foundation in school education today. Because we lost a lot of time.

If someone thinks that schools are only the work of the Ministry of Public Education, they are completely wrong.

Reforms in the field of school education should be the task of ministries and agencies, department heads, governors at all levels, scientific organizations, intellectuals, and the general public, said our honorable president Sh. Mirziyoyev, emphasizing that education and education are closely related. 'tate. For perfect knowledge, of course, good education is necessary.

Mathematics is a world-class subject that forms the basis for learning all subjects. It was emphasized that it is necessary to increase interest in mathematics among young people, to select talented children, and to organize them into specialized schools and later higher education institutions. The task was set to create popular textbooks and training manuals for children on this subject, written in simple and understandable language, to form the mathematical mind, if necessary, starting from kindergarten.

Mathematics is the basis of all exact sciences. A child who knows this subject well will grow up to be smart, broad-minded, and work successfully in any field, says our president Sh. Mirziyoyev also strongly believes in this science.

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In my previous articles, I talked about the term fraction and about addition and subtraction between fractions with the same denominator. This article provides information about multiplication and division operations on fractions.

1. When multiplying fractions together, the denominator is multiplied by the denominator, and the numerator is multiplied by the numerator.
For example:

1) 2)

Looks like it can work. When multiplying fractions together, if the image of the first fraction and the denominator of the second fraction, and the image of the second fraction and the denominator of the first fraction are reduced to suitable numbers, then they should be reduced, then the answer to the given example will be simple and beautiful.

In the given multiplication, the image of the first fraction and the denominator of the second fraction are reduced to 4 numbers, and 2 numbers remain in the denominator of the second fraction. As the image of the second fraction, the denominator of the first fraction is reduced to 5 digits, and the denominator of the first fraction remains 3 digits.

Formed in the form

Or there is a second method: the given fractions can be first multiplied and then reduced.

The above expression is generated. If we reduce the numerator and denominator of this fraction to the number 20, we get 1 in the numerator and 6 in the denominator.

**Note:**If the numerator and denominator of a fraction are multiplied or divided by the same number, its amount does not change, if the numerator and denominator of the fraction are added or subtracted by the same number, its amount changes. So, this theorem is true only for multiplication and division operations.
Multiplication on fractions is much simpler. If you are given a mixed fraction, first convert the fraction to improper form and then multiply. For example:

It is formed in the form and the resulting result is also converted into a mixed fraction.

2. In order to perform the operation of division on fractions, it is necessary to convert the operation of division into the operation of multiplication. As a result, the image of the second fraction is replaced by the denominator, and the denominator is replaced by its image.

Described in appearance.

This answer should be expressed as a mixed fraction.

Therefore, the operation of dividing by fractions is performed like the operation of multiplication. Unlike multiplication, one additional operation is added to it, that is, when division is converted to multiplication, the numerator and denominator of the second fraction are swapped.

There are always not only simple examples of multiplication and division of fractions, but also slightly more complicated ones. We will analyze 1-2 of them.

1) When this example is given as written work in science olympiads and various knowledge competitions, most students spend time multiplying numbers from 1 to 10 together. 10 him! even if he writes, the answer is accepted as correct.

2)This example works in this order. This method is more convenient than working with the common denominator by finding the common denominator for the numbers 6,12,20,...,72,90.

3) So simple parentheses can also cause the example answer to change.

**Summary**:The summary of this article is that it provides very useful information for elementary students and students who are new to mathematics. In my previous articles, information was given about the concept of the word "fraction". Fractions and operations on them are the first step in mathematics. In this article, I have also given an understanding of multiplication and division operations on fractions. Multiplication and division operations are not very different from each other, that is, division operation can be changed to multiplication operation and work in easy and convenient ways.

## Used literature

1.https://yuz.uz/uz/news/talim-tarbiya--bu-bizning-kelajagimiz-hayot-mamot-masalasi--shavkat-mirziyoev.

2.https://www.sof.uz/uz/post/shavkat-mirziyoyev-mathematikani-yakshshi-bilgan-bola-aqlli-keng-fakkkurli-boladi-va-istalgan-hada-labi-ketadi

3. Toshboyeva, SR, & Turgunova, NM (2021). THE ROLE OF MATHEMATICAL OLYMPIADS IN THE DEVELOPMENT OF INDIVIDUAL CONSCIOUSNESS. Theoretical & Applied Science, (4), 247-251.

4. Toshboyeva, SR, & Shavkatjonqizi, SM (2021). Specific ways to improve mathematical literacy in the process of sending students to higher education. Academicia: An international multidisciplinary research journal, 11(10), 234-240.

5. Toshboyeva, SR (2020). Competent approach in teaching probability theory and mathematical statistics. EPRA International Journal of Research and Development (IJRD).

6. Rahmonberdiyevna, TS, & Sokhibovna, AM (2021). Techniques for Teaching Elementary Students Rational Numbers and Convenient Ways to Perform Operations on Them. International journal of culture and modernity, 11, 283-287.
7. Rakhmonberdiyevna, TS, & Shavkatjonqizi, SM (2021). Methods for the development of stochastic competence in mathematics lessons at school. ACADEMICIA: An International Multidisciplinary Research Journal, 11(5), 863-866.
8. Rakhmonberdiyevna, TS (2022). CREATIVITY AS A PEDAGOGICAL PROBLEM. Conference, 138-141.
9. Rakhmonberdiyevna, TS (2022). RESEARCH OF CREATIVE ACTIVITY OF THE FUTURE PRIMARY CLASS TEACHER. Conference, 155-157.
10. Rahmonberdiyevna, TS (2022). SIMPLE WAYS TO SOLVE SOME PROBLEMS ON THE SUBJECT OF ACTIONS ON CONSIDERATIONS AND PREDICATES. RESEARCH AND EDUCATION, 1(2), 234-237.
11. Toshboeva, S. R. (2022). THEORETICAL BASIS OF DEVELOPMENT OF CREATIVE SKILLS OF FUTURE PRIMARY CLASS TEACHERS. Journal of new century innovations, 4(1), 294-297.
12. Toshboeva, S. R. (2022). PEDAGOGICAL CHARACTERISTICS OF DEVELOPMENT OF CREATIVE ABILITIES OF FUTURE PRIMARY CLASS TEACHERS IN THE PROCESS OF QUALIFICATION PRACTICE. Journal of new century innovations, 4(1), 289-293.
13. Toshboeva, SR, Mallaboeva, BM, & Yusupova, LAK (2022). LAWS AND THEIR APPLICATION BASED ON SOME INTERESTING COMBINATORIAL PROBLEMS. Oriental renaissance: Innovative, educational, natural and social sciences, 2(10), 1341-1349.
14. Rahmonberdievna, TS, & Mukhtorovna, MB (2022). LAWS AND THEIR APPLICATION BASED ON SOME INTERESTING COMBINATORIAL PROBLEMS.
15. Toshboyeva, S., & Hojimamatova, H. (2023). THE SIMPLEST AND MOST CONVENIENT METHODS OF DEFINING FUNCTIONS IN MATHEMATICS AND EXAMPLES OF GP IN THE FIELD OF VALUES. Modern Science and Research, 2(5), 730-737.
16. Rahmonberdiyevna, TS, & Davlatboyevna, ED (2023). Analysis of Examples and Problems Related to Types of Fractions, Mixed Numbers, Addition and Subtraction of the Same Fraction. European Journal of Pedagogical Initiatives and Educational Practices, 1(2), 24-29.
17.https://arxiv.uz/uz/documents/slaydlar/algebra/algebraik-kasrlarni-ku-plujaj-va-bolish
18.https://www.test-uz.ru/urok_view.php?id=9383