HISTORICAL INFORMATION ABOUT EXTREME ISSUES

S. T. Qasimova
Fergana Polytechnic Institute Assistant

ABSTRACT

In life, a person is always faced with the responsibility of making the most optimal decision regarding a certain problem. Such problems range from economics to technology. In such situations, in most cases, turning to mathematics is the best solution to the problem.

Keywords. Differential calculation , extremum , minimum and maximum

INTRODUCTION

It is no exaggeration to say that the research of the function of minimum and maximum concepts in mathematics began 25th century ago. Over the years, several approaches to the study of extremums have emerged. However, about 300 years ago, at a time when mathematical analysis was taking shape, a single method for solving and investigating extrema was created.

As the methods of differential calculus converged, a scientist named Ferm developed a more accurate form of extremum solution. In his 1638 letter to Descartes, he reported that he had solved the problem of determining the value of the function f(x).

Since the beginning of human history, people have faced the problem of solving various - mathematical problems . Among these issues, extreme issues occupy a special place. Most of the extreme problems were solved during the formation of elementary mathematics.

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It is no exaggeration to say that the research of the function of minimum and maximum concepts in mathematics began 25th century ago. Over the years, several approaches to the study of extremes have emerged. However, around 300 years ago, at a time when mathematical analysis was taking shape, a single method for solving and investigating extrema was created.

Ancient Egyptian, Greek, and Roman scientists worked hard to solve these problems. Especially the services of scientists like Pythagoras, Euclid, Archimedes in this regard are incomparable. Nevertheless, elementary mathematics apparatus was not strong enough to solve extreme problems with mathematical rigor. By the 16th and 17th centuries, the creation of differential and integral calculus by Newton, Euler, Leibniz, Bernoulli, and others allowed a serious approach to solving extreme problems. Since this period, the solving of various extreme problems has taken an important place in the activity of scientists, and the methods of solving them have been improved more and more. It is difficult to point out an area of the economy where extreme issues do not occur. Graduates of the school, regardless of what field they specialize in in the future, will certainly face such issues. Therefore, it is not without reason that extreme problems are given great importance in the school mathematics course. Mathematics teachers face certain methodological difficulties in solving such problems. The reason for this is that a mathematically rigorous method of solving extremal problems is not

satisfactorily described in mathematics textbooks. A number of published articles do not satisfactorily solve this problem. Below, we turn first to a serious approach to solving extremal problems. The content of this approach is described by two theorems. Then we apply those theorems to solving some extreme problems that are often encountered in stereometry .

The greatness of mathematics is characterized by the following two aspects:

1. Besides being a separate science, mathematics is an art in itself, because mathematical creation is similar to artistic creation in many ways.

2. In many cases, the main results of mathematics are expressed not by equalities, but by inequalities.

It is natural for mathematicians to ask the following question: "What mathematical problems are the most important? "

This question can be answered as follows: Life presents mathematics with various problems, among which the most important ones can be singled out. it is very difficult. Nevertheless, it is possible to point out some groups of problems, which should be recognized as having an incomparable importance in the science of mathematics and its various applications.

In this group of problems, first of all, problems about finding the largest and smallest values can be included.

The Russian mathematician Pafnutiy Lvovich Chebyshev expressed the following thoughts about this: - the practical activity of mankind is extremely diverse, in order to be satisfied with his activity, he must solve such problems, and as a result, get more profit, solving such problems is a separate direction is recognized as the theory of the largest and smallest values. Such problems have a purely practical nature, study all the laws of the movement of matter and directly stimulate the development of mathematics.

REFERENCES

1. Azizov, M., & Rustamova, S. (2019). The Task of Koshi for ordinary differential equation of first order which refer to equation of Bernoulli. Scientific journal of the Fergana State University, 2(1), 13-16.

2. Kosimova, M. Y., Yusupova, N. X., & Kosimova, S. T. (2021). Бернулли тенгламасига келтирилиб ечиладиган иккинчи тартибли оддий дифференциал тенглама учун учинчи чегаравий масала. Oriental renaissance: Innovative, educational, natural and social sciences, 1(10), 406-415.

3. Қосимова, М. Я., Юсупова, Н. Х., & Қосимова, С. Т. (2021). БЕРНУЛЛИ ТЕНГЛАМАСИГА КЕЛТИРИЛИБ ЕЧИЛАДИГАН ИККИНЧИ ТАРТИБЛИ ОДДИЙ ДИФФЕРЕНЦИАЛ ТЕНГЛАМА УЧУН УЧИНЧИ ЧЕГАРАВИЙ МАСАЛА.

4. Qosimova, M. Y., Yusupova, N. X., & Qosimova, S. T. (2021). On the uniqueness of the solution of a two-point second boundary value problem for a second-order simple differential equation solved by the bernoulli equation. ACADEMICIA: An International Multidisciplinary Research Journal, 11(9), 969-973.

5. Azizov, M. S., & Rustamova, S. T. (2017). Yuqori tartibli differensial tenglamalarni bernulli tenglamasiga keltirib yechish. Toshkent shahridagi turin politexnika universiteti, 61.

6. Kosimova, M. Y. (2022). Talabalarni ta'lim sifatini oshirishda fanlararo uzviyligidan foydalanish. Nazariy va amaliy tadqiqotlar xalqaro jurnali, 2(2), 57-64.

7. Yakubjanovna, Q. M. (2022). Some Methodological Features of Teaching the Subject «Higher Mathematics» in Higher Educational Institutions. Eurasian Journal of Physics, Chemistry and Mathematics, 4, 62-65.

8. Qosimova, M. Y., & Yusupova, N. X. (2020). On a property of fractional integro-differentiation operators in the kernel of which the meyer function. Scientific-technical journal, 24(4), 48-50.

9. Kosimova, M. Y., & Kh, Y. N. Solving higher-order differential equations using the method of order reduction. Chief Editor.

10. Tojiboyev, B. T., & Yusupova, N. X. (2021). Suyuq kompozitsion issiqlik izolyatsiyalovchi qoplamalari va ularning issiqlik o'tkazuvchanlik koeffisentini aniqlash usullari. Oriental renaissance: Innovative, educational, natural and social sciences, 1(10), 517-526.

11. Tojiboyev, B. T., & Yusupova, N. X. (2022). Innovatsion texnologiyalar asosida mahalliy xom ashyolardan issiqlikni saqlovchi materiallarni yaratish va tadbiq etish. Oriental renaissance: Innovative, educational, natural and social sciences, 2(4), 95-105.

12. Yusupova, N. X., & Nomoanjonova, D. B. (2022). Innovative technologies and their significance. Central asian journal of mathematical theory and computer sciences, 3(7), 11-16.

13. Yusupova, N. X. (2021). The role of tests in determining the mathematical ability of students. Central Asian Journal Of Mathematical Theory And Computer Sciences, 2(12), 25-28.

14. Yusupova, N. K., & Abduolimova, M. Q. (2022). Use fun games to teach geometry. Central asian journal of mathematical theory and computer sciences, 3(7), 58-60.

15. Yusupova, N. X. (2022). Use of interesting games in teaching mathematics. Central asian journal of mathematical theory and computer sciences, 3(7), 7-10.

16. Abdug'opporovich, Y. A., & Muxammadjonovich, B. O. (2021). The role of physical education and sports in the formation of a healthy lifestyle in the family. Innovative Technologica: Methodical Research Journal, 2(10), 48-51.