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A GENERAL DESCRIPTION OF THE WORKS OF THE MATHEMATICS CIRCLE

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Abstract:
The article provides information on the formation and conduct of mathematics circle activities.

Keywords: mathematics, facultative, program, circle, tendency, material.

The mathematical circle is one of the forms of extracurricular activities aimed at the in-depth study of mathematics and the development of children's mental abilities. The work of the mathematics circle allows students to acquire additional knowledge and skills that can be used in further studies and professional development. The organization of the work of a mathematics circle requires training from a mathematics teacher, who must know the current school curriculum and have experience working with gifted students. He develops a work plan and selects tasks and materials that are most suitable for the level of training of the participants of the circle [1].
Often, the most prominent students of the institute or university can act as organizers, but in any case, immediate support is provided to the group leader. The basis of the work of the mathematics circle is to solve problems that are much more difficult than in school. By solving such problems, children develop their logical thinking, deepen their knowledge of mathematics, and learn to work in a team. Problems can be taken from various sources - school textbooks, contests, or popular scientific magazines.
The work of the circle also includes conducting scientific seminars and conferences, where students can present their creative work or scientific research conducted within the circle. Also, the circle can participate in various math contests, contests, and Olympiads, where students will have additional experience and an opportunity to demonstrate their abilities. In addition to actively solving complex problems, circle members can learn new areas of mathematics, and study formulas and graphs that

were previously incomprehensible to them. This work helps develop their mathematical intuition and understanding of the world in general [3].

In the modern world of knowledge, where mathematical skills are highly valued and valued, working in a mathematical circle opens the door to professional growth and can become an additional plus when entering universities or working in the future. Thus, the scientific work of the mathematics circle is an integral part of the process of teaching children, which guarantees students independent and more effective learning of information in the classroom, and also helps to develop and form creative thinking in children. This will increase the permanent interest in mathematics and scientific activities in general.

Now let's look at the forms of organizing mathematics circles.

1. Mathematics circles for children and students: organizational experience.

Mathematics circles are one of the effective forms of organizing extracurricular activities in mathematics. The article considers the main forms of the work of mathematics circles, which can be used in the organization of such activities. The advantages and disadvantages of each form are described, as well as the basic principles and methods of forming mathematical circles.

2. Mathematical circles as a means of developing students' mathematical skills.

Mathematical circles are held in various organizations, for example, schools, universities, or special sites. The article talks about the methods of organizing mathematics circles and their influence on the development of students' mathematical abilities. The positive and negative aspects of each form of organizing mathematics circles are discussed.

3. Use of technology in the organization of a mathematical circle.

The article considers the use of technology in organizing a mathematics circle. Methods and tools that can be used in the effective organization of remote work of the mathematics circle are described. The main problems faced by the participants of the distance mathematics circle and possible ways to solve them are also considered.

4. Organization of a mathematics circle in an educational institution.

The article is devoted to the organization of a mathematics circle in an educational institution. The main mechanisms and principles of the work of the circle, the preparation of lesson plans, as well as the selection of tasks and materials for training, are covered. Methods are described to make the math circle effective and interesting for the participants.

5. Mathematics circle as a means of upbringing.

Mathematics Circle is a place where you can not only improve your knowledge of mathematics but also prepare for admission to higher educational institutions. The

article describes the role of the mathematics circle in education and upbringing, as well as the methods of organizing and conducting lessons. Examples of success circles and their working mechanisms are discussed.

Modern technologies, such as the Internet, computers, and mobile applications, have great potential for use in education, including the organization of mathematics clubs. In this article, we will look at how technology can help organize a math circle and make it more interesting and effective.

Organization of mathematical circles is one of the effective means of the early development of children. The traditional method of organizing mathematics circles involves group sessions with a teacher throughout the year. Organizers of mathematical circles usually choose students who show interest in math. However, in some cases, an invitation to a round may be sent along with an invitation to additional classes. In circles, children are allowed to relax and gain new knowledge [2].

Traditional math circles typically have a year-long curriculum and permanent group membership. One of the main goals of organizing such clubs is to develop students' creative abilities, as well as to arouse their interest in science.

Most often, qualified mathematics teachers with special education and extensive pedagogical experience work as teachers of circles. They not only represent knowledge but also know how to actively engage children in discussions, ask for their interest in mathematics and strengthen their competence. The lessons are usually based on the elementary concepts of algebra, geometry, number theory, etc., and are easily learned by children in the early stages of learning. As a rule, in the lesson, various materials and tasks that help to visualize and clarify the understanding of these concepts are used.

The traditional organization of mathematical circles provides an individual approach to children's learning activities and interests. Thus, for those who better learn mathematical concepts through games, animations, and other interactive games, they can offer the use of various devices, graphic effects, and other tools for visualizing the material.

For practical reasons, the traditional organization of circles is especially relevant for those who live in cities or towns where there is no access to the Internet and mobile communication - teachers can work with students using the most common means of communication and learning.

Mathematics is one of the most important subjects in the school curriculum. However, not all students love this subject. Often this is due to the lack of a fun and exciting approach to learning mathematics, which skillfully keeps students interested in

science. One of the ways to make the process of teaching mathematics interesting is to organize mathematics circles.

Math circles can be seen as a way of doing extra work with students who want or need more knowledge and skills than what can be acquired in the classroom. In addition, participation in mathematics circles allows students to communicate with classmates who have the same level of knowledge and interest in mathematics, which creates an incentive for better mastery of the material.

However, recently the situation in the world has changed and most of the students are learning from a distance. This is not a reason to refuse to organize mathematics circles. On the other hand, distance education is an opportunity to create a network of math circles that students from different cities and even countries can participate in.

As a means of organizing mathematics circles, you can use online educational platforms such as Zoom, Skype, and Google Meet, where you can create video conferences and conduct lessons.

Establishing mathematics circles through distance learning requires highly qualified teachers who have sufficient knowledge to teach the circles. These online tutors give students access to the best tutors in their field.

In addition, math circles can be focused on specific topics based on the individual needs of the student. It helps students overcome problems related to specific topics faster. In addition, circles may differ in complexity and number of participants.

Distance learning math clubs are a great way to help students succeed in math. The right teacher and the right program can overcome many of the challenges that students discover in math classes.

Distance learning and traditional approach - both approaches to organizing math clubs have their advantages and disadvantages.

Distance learning has the following advantages:

1. Availability: distance circles can be visited from anywhere in the world with access to the Internet.
2. Flexibility: students can choose their own time to attend the circle which solves the time problem in traditional circles.
3. More choice: Distance education has more choices of teachers and programs than traditional circles.
4. Educational efficiency: With distance education, the teacher can better focus on the individual development of each student because he can assign assignments and monitor the progress of each student.

However, distance learning also has its disadvantages:

1. The impossibility of personal communication: unlike traditional circles, the student has to communicate only with the teacher, and there are fewer opportunities for direct communication with classmates.
2. Limitations on the use of materials: In the case of distance classrooms, students may not have access to the various learning materials used in traditional classrooms.
3. Organizational challenges: distance education system requires students to have certain computer and internet skills and to have a good internet connection.

The traditional approach also has its advantages:

1. The possibility of direct communication: in traditional circles, students work with the teacher and each other, which creates more effective cooperation between participants.
2. Personal approach: the teacher quickly determines the student's level of knowledge and conducts individual work with him, which increases the effectiveness of learning.
3. Ability to use materials widely: in traditional classroom training, the teacher can use a variety of teaching materials that may not be available in the electronic version.

However, the traditional approach also has its drawbacks:

1. Limited geography: courses can only be organized in specific locations, while distance learning is available from anywhere in the world.
2. Time Limits: Clubs have a schedule that prevents students from participating due to their circumstances.
3. Limited selection: usually no more than 10-15 students participate in one group, which limits the selection of possible candidates for the club.

Thus, the activity of the mathematics circle makes a great contribution to the development of educational activities, strengthens the intellectual ability of each member of the circle, and ensures the formation of scientific culture. The results of the presented work can be a basis for considering the possibilities of creating mathematical circles in school education in general.

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