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THE USE OF PRACTICAL AND MEANINGFUL PROBLEMS IN THE PROCESS OF TEACHING MATHEMATICS

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ANNOTATION
This article discusses the need to use practical issues in the development of knowledge, skills, interests and abilities of students in the teaching of mathematics in secondary schools, its application and equipping students with mathematical knowledge on this basis, the application of mathematical knowledge in real life situations. Many examples are given on the formation of acquisition skills and practical problems.
KEYWORDS: *math, practice, problem, knowledge, skill, application, competence, function, percentage, comprehension, topic, combination.*

DISCUSSION

In school education, students should be taught not only the system of knowledge in the field of science, but also the practical aspects of the subject. Because the ability to apply it in real life situations is assessed by the fact that they are able to bring the knowledge they have acquired to the level of competence. The student may have certain knowledge on a topic given by the teacher, but there is a second aspect in how they acquire new knowledge, i.e., through memorization or comprehension. It is known that memorization can be forgotten if it is not repeated for some time. However, the study of the subject in the case of comprehension, and the acquisition of knowledge, develops their ability to apply it in real life situations. In this regard, it is important that the knowledge given to the student on the topic is brought to the level of developing their ability to apply it in real life situations. In addition to giving students mathematical examples and problems in math classes, they also develop the skills to relate and apply the knowledge they have acquired to the life processes of the topic in the student's mind by giving them practical problems. This, in turn, ensures that knowledge of the subject is learned through understanding, not by memorization. In general, one of the requirements for the lesson is that the lesson should be connected with life and practice. In particular: a) the scientific basis of mathematics, physics, chemistry, biology, geometry and other sciences, its application in practice; b) the importance of science in the development of industry and agriculture. Therefore, it is necessary to reveal the practical importance of science in the teaching process. In mathematics, they reinforce their knowledge by studying theoretical knowledge and giving examples and problems. In the course of the lesson, the process of transfer of knowledge by the teacher and the acquisition of new mathematical knowledge by students in the acquisition of new material, the process of formation and generalization of scientific concepts, their ability to comprehend mathematical concepts, students examples and issues should be given in reinforcement and improvement, and then students should be given practical issues to enable them to apply their knowledge, skills and competencies in an appropriate situation. Especially in this process, examples and problems should be selected in a practical way, which should allow them to apply the theories in practice. At the same time, practical issues should be

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clear to students within the framework of the program. The following are practical questions about a function that are of practical significance.

Issue 1. The price of fittings on the commodity exchange since the beginning of the month

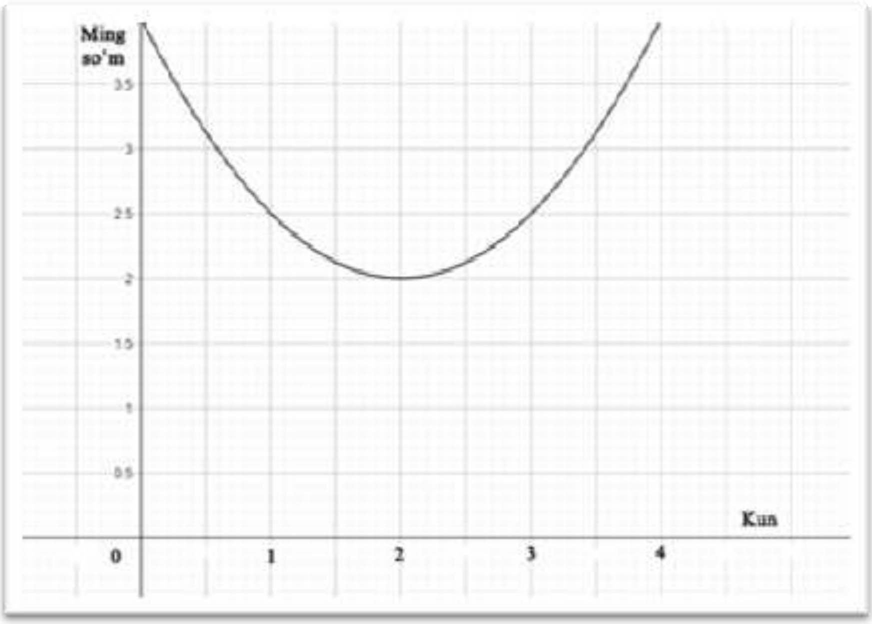
$$y = \frac{1}{2}x^2 - 2x + 4$$

began to decline with legitimacy. But if it goes back to the starting price on the 4th day, then on which day did the price go down?
(x-day, y-price)
Solution. y-price, x- day, and the graph of the function y = ax² + bx + c determine the end of the parabola using the formulas $x_0 = -\frac{b}{2a}$,

$$y_0 = ax_0^2 + bx_0 + c \text{ and } a = \frac{1}{2};\ b = -2;\ c = 4 \implies x_0 = -\frac{-2}{2 \cdot \frac{1}{2}} = 2;$$

$$y_0 = \frac{1}{2} \cdot 2^2 - 2 \cdot 2 + 4 = 2$$

Result: $x_0 = 2$;$y_0 = 2$ and the graph of the function is as follows: Figure 1



Answer. Day 2 was valued at 2,000 soums, which was the lowest value.
Issue 2. The artist wants to depict the trajectory of a shot spear. If the trajectory of the spear obeys the law $y = -x^2 + 4x$, determine its maximum height. (x-second; y-meter)
Solution. $y = -x^2 + 4x \implies a < 0;\ D > 0$ means that the tip of the parabola is facing down and intersects the Ox axis at two points. Using the formula for finding the coordinates of the end of a parabola $x_0 = -\frac{b}{2a} = 2$; We find that $y_0 = -4 + 8 = 4$. Answer. The highest elevation is 4 m.
Issue 3. The businessman initially bought 50 rabbits to breed. The total number of rabbits increased by more than 4% per week. How many rabbits does the entrepreneur have in 13 weeks?
Solution. We use the exponential function $y = a^x$.
At week 1. $y_1 = 50 \cdot 1{,}04 = 52$
Week 2 $y_2 = y_1 \cdot 1{,}04 = 50 \cdot (1{,}04)^2 = 54{,}08$ At week 2.
And at the 13-week, $y_{13} = 50 \cdot (1{,}04)^{13} = 83{,}2$
So, this means that the number of entrepreneurial rabbits will be 83 in 13 weeks.
Issue 4. The depositor wants to deposit money in the bank. If a bank offers a 19% annual deposit rate, then no matter how much the depositor puts in, how many years will it take for the deposit to double?
Solution. We denote the depositor's money by a, in which case an increase of 19% is a · 1.19 An arbitrary n is an increase from year to year $a \cdot (1{,}19)^n$.

$$2a = a \cdot (1{,}19)^n$$

$$2 = (1{,}19)^n \quad \Rightarrow n = log_{1,19}2 = 3{,}98$$

This means that the amount that the depositor wants to deposit will double in about 4 years. Optional. $log_{1,19}2$ can be done using Excel. To do this, use the program's LOG - logarithm calculation function. It is written as LOG(2;1,19). There are also issues of practical significance like this. That is, there are several examples and issues that can be covered in a lesson, not just in one direction, but in general.

Issue 5. The programmer forgot the security number of his computer device. If it is clear that the security system consists of 4 digits, then how many number combinations does the user need to create to unlock the protection? *Solution.*

We describe the position of the 4 numbers in the following cells Since the numbers are from 0 to 9, you can put one of the 10 numbers in cell 1. So it's just one of 10 chances. You can also place one of the 10 numbers from 0-9 in cell 2. In that case, the number of combinations is 10^2. Only one of the 10 digits can be placed in the third and fourth cells. So a total of 10^4 combinations. Answer. The programmer will need to type 10,000 combinations to unlock the security code.

Issue 6. A stamp duty of 15 percent of the minimum wage is charged for issuing stamped certificates. If the basic calculation amount (minimum salary) is 223,000 soums, how many soums will be charged for the stamp duty?

Solution. To find the p% of the number a, divide the number a by 100 and multiply by p%.

$$\frac{a}{100} \cdot p \Rightarrow p=15\% \wedge a=223000 \Rightarrow \frac{a}{100} \cdot p = \frac{223000}{100} \cdot 15 = 2230 \cdot 15 = 33450$$

Answer. The coat of arms fee is 33,450 soums.

Issue 7. Two types of equipment are to be delivered from Tashkent to Jizzakh: 95 from the first type and 100 from the second type. The delivery service provided 2 types of vehicles. According to him, the vehicle can accommodate the following table sizes.

Device type	1-vehicle	2- vehicle
Type I	3	2
Type II	4	1

How many orders does the factory have to bring to bring all the equipment from each vehicle

Solution. We denote the first vehicle by x and the second vehicle by y, and solve the problem by constructing the following system of equations. Solve $\begin{cases} 3x + 2y = 95 \\ 4x + y = 100 \end{cases} \Rightarrow \; y = 100 - 4x$ by the first equation.

$3x + 2(100 - 4x) = 95 \Rightarrow 3x + 200 - 8x = 95 \Rightarrow 5x = 105 \;\; \Rightarrow \;\; x = 21 \Rightarrow \; y = 16$

Answer. y = 16

The use of such practical problems in mathematics lessons, on the one hand, increases the student's interest in science, on the other hand, helps them to understand the relationship between mathematical laws between science and life and develop skills to apply their knowledge in real life situations. will give. This, in turn, will increase the effectiveness of the lesson.

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