

SOME APPLICATIONS OF SOLUTION OF TEXT PROBLEMS BY ARITHMETIC METHOD

Ziyodullaeva Makhliyo

*A student of the Denau Institute of
Entrepreneurship and Pedagogy*

Abstract: This article helps to overcome the problems students face in solving text problems in mathematics classes in today's educational process. Also, the ease of solving problems in this way serves as an important basis for the development of student's ability to analyze problems.

Keywords: arithmetic, quantity, textual, problem.

INTRODUCTION

Today, in general secondary schools, text problems develop students' ability to think and serve to increase their mental activity. Therefore, we will touch on some applications of solving problems with the arithmetic method. Arithmetic solving of word problems is a complex activity, the content of which depends on both the given problem and the skill of the problem solver. It consists of expressing a concise conclusion about fulfilling the requirement of the problem or answering the question of the problem. It should be noted that the stages of solving the above-mentioned issues are not always fully implemented. By asking questions about the text of the problem and answering them, you can understand the content of the problem and distinguish the condition and requirement of the problem.

LITERATURE ANALYSIS AND METHODOLOGY

In mathematics lessons, it is appropriate to divide the text into meaningful parts when explaining the content of the text problem to students and searching for a solution. As a result, the issue is divided into meaningful parts. It is effective to exclude redundant information in the problem, to replace the expression of some concepts with suitable terms, and, on the contrary, to replace some terms with their corresponding concepts, to create the text of the problem in a form that is convenient for searching for a solution.

One of the common methods of solving text problems with arithmetical methods in mathematics classes of general secondary education is to analyze the problem in the text. In this way, the analysis of the problem can be in the form of a chain, which can start from the condition of the problem and its questions. From the condition of the problem, it is understood to

determine how the unknown can be found with the help of arithmetical operations given in the analysis. By this, considering the unknown as given information requires finding the unknown that can be found with its help. This process is continued until the action that leads to the creation of the unknown is identified.

Solving a problem by performing arithmetic operations on numbers corresponds to the problem requirement of solving these problems by the arithmetic method. Several arithmetic methods can be used to solve the given problem. These methods differ from each other in reasoning and analysis in the process of problem-solving. We present the application of some problems related to solving problems arithmetically.

Different arithmetic methods of solving the same problem differ in sequences.

Solving a problem by an arithmetic method means finding an answer to the problem's requirement by performing arithmetic operations on numbers. One problem can be solved by several arithmetic methods. They differ from each other in the logic of reasoning in the process of solving the problem.

Y.M. According to Kolyagin, the process of solving a problem using an arithmetic method covers the following main stages.

Matter. 82 students participate in chess and basketball clubs, 32 students participate in basketball and volleyball clubs, and 78 students participate in chess and volleyball clubs. If each student plays only one sport, how many participate in the chess, volleyball, and basketball clubs?

Solution:

1) $82 + 32 + 78 = 192$ students are doubling the number of students participating in chess, basketball, and volleyball clubs.

2) $192 : 2 = 96$ total number of students participating in chess, basketball, and volleyball clubs.

3) $96 - 32 = 64$ are the number of students participating only in the chess club.

4) $96 - 78 = 18$

5) $96 - 82 = 14$ students participating only in the basketball club 14 students participating only in the volleyball club

Answer: 64 people participate in the chess club, 18 people in the basketball club, and 14 people in the volleyball club.

Mohina plucked 96 kg of pomegranates in 8 hours. How many kg of pomegranates does he pick in 5 hours? Solving.

Method 1. We explain the issue as follows. If Mohina picks 96 kg of pomegranates in 8 hours, then we need to find out how many kg of pomegranates she picks in 1 hour.

For this, we make $96 \div 8 = 12$ (kg).

Mohina cuts 12 kg of pomegranates in 1 hour. To determine how many kg of pomegranates he picked in 5 hours, we find that $12 \cdot 5 = 60$ (kg).

Method 2. A month in 8 hours is $8 \div 5 = 1.6$ compared to 5 hours

Answer: 60 (kg) times more pomegranates. In that case, $96 \div 1.6 = 60$ kg of pomegranates are plucked 1.6 times less in 5 hours.

Answer: 60 (kg) Problem. There were 75 flowers in two vases. If 6 flowers are taken from the first vase and 9 flowers are taken from the second vase, the number of flowers in the vase will be equal. How many flowers are there in each vase?

Solution: Based on stage I, the problem is about flowers in a vase.

In Stage II: the values of certain quantities in the problem. Flowers in a total vase

75 flowers, 6 from the first basket and 9 from the second.

In stage III: unknowns to be sought: Number of flowers in each vase. We solve the problem by the method of equalization.

1. If 6 flowers are taken from the first vase and 9 from the second vase, the total number of flowers taken from the vases

$6 + 9 = 15$ will be. Now subtract the received ones from the total number of flowers

$75 - 15 = 60$ flowers left.

2. As a result, the number of flowers in both vases will be equal, and the number of flowers in that vase will be 30.

$60 \div 2 = 30$ i.e. each

Check: 6 flowers out of 30 in the first vase and 6 in the second vase

We compare the total number of flowers by adding 9 flowers from 30 flowers.

$30 + 6 = 36$

$30 + 9 = 39$

$36 + 39 = 75$ solution is correct.

Answer: There are 30 flowers in each vase.

Matter. In kindergarten, 20 g of butter is given to each child per day. There are 456 children in the kindergarten. To provide children with butter in one day, at least three kilograms of butter pieces are needed. We solve the given problem by arithmetic method.

Solution: The amount of butter needed to provide for the children in the kindergarten in one day

$456 \cdot 2 \text{ gr} = 9120 \text{ gr} = 9 \text{ kg } 120 \text{ gr}$ How many three-kilogram pieces of butter

to find out what is needed, we divide the daily amount of butter for the camp into three-kilogram pieces of butter. $9 \text{ kg } 120 \text{ g} \div 3 \text{ kg} = 3.4$

Answer: 4 are needed.

Now we will form the solution of the problem using the schematic method of solving problems arithmetically.

Matter. 60 questions were asked in the test, and each correct answer was evaluated for 5 points. One correct answer was canceled as a penalty for 4 incorrect answers. In this test, if a student who marked all the questions got 225 points, how many correct answers did he get?

Solution: We will solve the problem through the following analysis, that is, at the first stage, we will read the problem and determine whether it is about the test. In the second stage, by asking questions about the problem, the values of the quantities in the problem, what is known, what needs to be found, and the solution plan are determined. At the third stage, we implement the solution, that is, the unknown we are looking for is found. So, we will perform the solution through the following sequence.

1. How many questions did the student answer to get 225 points as a result of the test;
2. The number of wrong answers in the test without calculating fines;
3. How many questions did the student answer correctly if 1 correct answer was discarded for 1 incorrect answer?

Let's solve the text problem about the following movement arithmetically.

Matter. The dog chased after the fox. A dog is running at a speed of 8 m per second, and a fox at a speed of 6 m. The distance between them was initially 360 m, and the fox had 1 km to reach its nest. Will the fox reach his nest?

Solution: We implement the solution through the following sequence.

- 1) Distances from the dog and fox to the fox's house (in meters);
- 2) The times of the dog and the fox to cover the distance to the fox's nest;
- 3) Finding the difference between times.

CONCLUSION

Thus, in the process of solving problems arithmetically, students acquire new mathematical knowledge and prepare for practical activities. The

student needs to have a deep understanding of the text problem and its structure, to be able to solve problems in different ways. In this regard, the textual problem can be expressed as follows. A textual problem is an expression of a situation in natural language, in which it is required to give a quantitative description of a part of this situation, whether there are connections and relationships between parts, and to determine its type.

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