

CHOOSING ACTIONS IN SOLVING SIMPLE AND COMPLEX PROBLEMS

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Appropriate simple problems are used to reveal the purpose and content of arithmetic operations, the connections between the components of operations and their results, and to get acquainted with the connections between various quantities. Problems that require one action to be solved are simple problems. Simple problems serve as one of the important means of introducing students to mathematical relationships. Simple problems are also used to study proportions, a number of geometric concepts and elements of algebra. Simple problems are the basis for students to acquire the knowledge, skills and abilities necessary to solve complex problems. Both types of problems develop the child's thinking ability. They usually contain "hidden" information.

The synthetic analysis of the problem is understood as the development of reasoning in which, as a result of combining two pieces of information, what can be learned from this information is determined. After that, the newly found information is combined with other information, and this work continues until the answer to the question is found. The analytical method of problem analysis consists of such a chain of considerations that the question posed in the problem is at the beginning of this chain. The information necessary to find an answer to the problem question is selected. This information can be found using other information.

After analyzing the problem in one way or another, a solution plan is made, that is, what we need to know first and what we need to know in order to answer the final question of the problem is determined.

A simple problem can be solved both by an arithmetic method and by an algebraic method. Here we are talking about solving problems by arithmetic method. Solving the problem algebraically will be considered separately later. When solving a simple problem arithmetically, an expression is created and its value is found.

Example:

"Karima read 10 pages of the book on the first day, and on the second day she read 3 pages more than the first day." Karima second day how many pages book read ? ". This is the issue writing solution can :

$$10 \cdot 3 = 30 \text{ (pages)}$$

There are 30 of them next to the name it's okay not to write . In that case of solving the problem writing example solution writing with yes one difference does not

Answer: Karima read 30 pages on the 2nd day.

§ II.2. It is possible to write the arithmetic solution of a complex problem in different ways. Examples of writing solutions according to one or another task of the teacher are presented in the example of the problem below. "2 notebooks cost 200 soums. How much would 5 similar notebooks cost?" The condition of the problem is written in the form of a table:

Price	Amount	Total money
One different	2 notebooks	200 soums
	5 notebooks	?

To solve expression in the form of write : a) express slowly - slowly comments with writing $200 \div 2 = \text{book value}$, $(200 : 2) \cdot 5 = 5 \text{ book money}$
 $(200 : 2) \cdot 5 = 500 \text{ (sums)}$, Answer: 5 notebooks cost 500 sums.

If the problem can be written in a different way, then the obtained homogeneous results confirm that it was solved correctly.

Solving some problems in different ways is often based on different properties of arithmetic operations or rules derived from them.

In the 1st grade, solving problems in different ways is based on the application of the rules of adding a number to a sum and adding a sum to a number, subtracting a number from a sum and subtracting a sum from a number. In the 2nd grade, dividing and multiplying the sum by a number, in the 3rd grade, the problems related to learning the connections between the results of arithmetic operations and their components and strengthening the rules of multiplying a number can be solved in different ways.

An example.

"The student bought 2 erasers for 50 soums and 5 pencils for the same price. How many soums did you pay for pencils and erasers?" .

Solution :

Method I. $50 \cdot 2 + 50 \cdot 5 = 100 + 250 = 350$ (sum)

Method II. $(2+5) \cdot 50 = 7 \cdot 50 = 350$ (sum)

Advanced teachers teach students to solve problems independently. Several stages of this can be distinguished.

Stage 1. The problem is solved according to the guiding questions of the teacher, and this solution is done simultaneously on the blackboard and in notebooks.

2nd stage. The condition of the problem is analyzed under the guidance of the teacher, and then a solution plan is drawn up. The solution itself is not written on the blackboard, nor is it said orally. Students do it independently in the classroom or at home.

3rd stage. The problem is only analyzed under the guidance of the teacher. The solution plan and solution are done by the students independently. Step 4. Completing the problem independently without any help from the teacher. In addition to the general methods of working on the problems mentioned above, it is necessary to pay great attention to distinguishing similar problems from each other.

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