

Scientific Research in Elementary Mathematics Classes Using Methods

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Annotation. This article describes ways to increase students' creativity and develop critical thinking skills by using scientific research methods in elementary mathematics classes.

Key words: Analysis, synthesis, method, problem, numbers, whole, concentrate, unit, hundredth, thousandth, room unit, research method.

Introduction. The science of mathematics uses the methods of "scientific research" in the process of studying the spatial forms of things in the existing material world and the quantitative relationships between them. They include methods of analysis and synthesis.

Methods of analysis and synthesis are manifested in different forms in the teaching of mathematics in elementary grades. For example, it is possible to show the method of solving problems, mathematical concepts, the method of studying their properties, and research methods.

Analysis and synthesis are inseparable, they complement each other and form a single analytical-synthetic method. For example, the problem is divided into several simple problems with the help of analysis, and then the solutions of these simple problems are combined with the help of synthesis [3.116-117].

At first, analysis is considered as a way of thinking, moving from the whole to parts, and synthesis is considered as a way of moving from parts to the whole. Later, analysis is considered as a way of thinking, and it is considered as a way of thinking that consists of moving from the result to the cause that caused it. The subject (object) of mathematics consists of the spatial forms of existing objects in matter and the quantitative relationships between them.

It is known that the object of studying mathematics consists of the spatial forms of things in matter and the quantitative relations between them. In the process of determining the quantitative relationships between these forms, mathematicians use scientific methods of research as a tool. When thinking through the method of analysis, the student must answer the following question: "What do you need to know to find the unknown you are looking for?" .

From a psychological point of view, the method of analysis is considered as a method of searching from the whole to the parts. In the method of analysis of thinking, each step has its own basis, that is, each step is based on the rules that we already know [page 2.33-34].

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In the method of synthesis, the transition from one stage of thinking to another is almost blind, these transitions are more unclear to the student. In the synthesis method, we answer the question of what we can find based on the givens.

For example, 1. Show the composition of the number 4752?

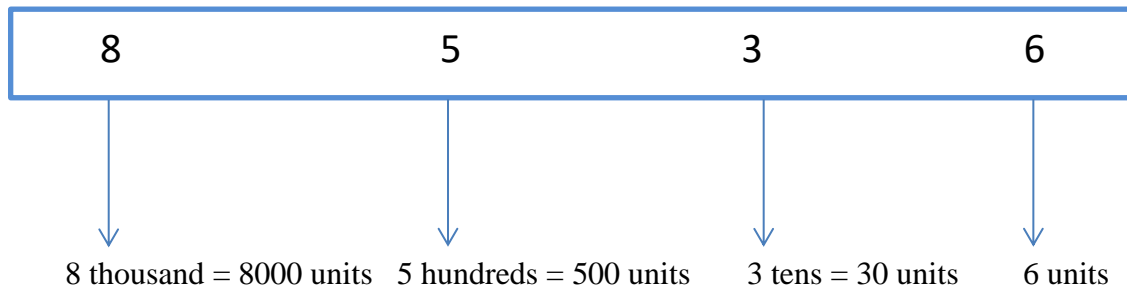
Answer: $(4000+(700+(50+2)))=4752$

2.How many room units are there in each room of 2348?

Answer: There are 2 units, 3 hundreds, 4 tens, 8 units.

$$(2000 + (300 + (40 + 8))) = 2348$$

b) We divide the number 8536 into decimal content as follows:



$$8536 = 8000 + 500 + 30 + 6$$

(sum of roommates)

Analysis is understood as a method of research, based on the concept of number and measurement, it consists of quantitative study of an object. Synthesis is a method of thinking that consists in studying the qualitative properties of an object.

In teaching mathematics, analysis and synthesis are used in the meaning of the second level of understanding. These methods are manifested not only as methods of scientific research, methods of studying educational material, but also as forms of thinking process.

The analysis is used in two different forms, i.e. in the form of a filter and through synthesis. The analysis and synthesis part of scientific research methods is used to divide numbers into units and write them as a whole.

– Write the smallest and largest one-digit, two-digit, three-digit and four-digit numbers in the form of numbers;

a) What number is formed from one thousandth, seven hundreds, seven tens, and five units? Answer: 1775

b) What number is formed from three thousands, four hundreds, five tens, and two units? Answer: 3452

c) What number is formed from five thousandths, six hundredths, nine tens, and three ones? Answer: 5693

d) What number is formed from eight thousandths, five hundredths, six tens, and three units? Answer: 8563

e) What number is formed from six thousandths, four hundredths, seven tens, and two ones? Answer: 6472

2. 8941 books were brought to the school library. How many thousandths, hundreds, tens, units are these? Answer: (8 thousands, 9 hundreds, 4 tens, 1 unit)

3. 2 thousand, 6 hundreds and 9 units of books were brought to the school library. How many books are listed? Answer: 2609

How many room units are there in each room of 4.348? Answer: There are 3 units, 3 hundreds, 4 tens, 8 units.

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