

# The Emergence and Development of Methods of Writing All Negative Numbers

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**Abstract:** This article presents examples and problems related to the emergence and development of methods for writing all non-negative syllables, which is one of the most important topics in mathematics. How long have people been using the decimal number system?

**Keywords:** characters are used to denote only one, tens, hundreds, thousands, and so on. In general, the oldest number system is the binary system.

## 1. INTRODUCTION

### 1. Goals and objectives of the topic.

According to historians, the decimal system originated in India around the 6th century AD. It passed from the Hindus to the Arabs and spread to Europe in the 10th and 13th centuries.

How did people write numbers before the number system came into being?

The concept of number originated in very ancient times. You will need to enter the numbers at the same time. Before the advent of writing, people were able to say numbers and do calculations. They were helped by various weapons and, first of all, fingers and toes. Calculators, such as wooden sticks, knotted ropes, and ropes, were also used. Of course, it was not easy to "write" numbers using notches and nodes, because it was also difficult to perform operations on numbers made by notches and nodes to write large numbers. Therefore, a different, more economical way of writing numbers has emerged. The calculation was performed in groups of the same number of elements. This allowed for the development of calculations with the help of fingers and toes. Finger counting creates a variety of number systems: the five-digit system, the decimal system, the decimal system, and more. In general, the oldest number system is the binary system. This system was created with the help of the hands, not with the fingers, that is, when the unit of the upper chamber is one hand and the unit of the upper chamber is two hands. This system, which has survived to the present day, is reflected in the pairing.

## 2. METHODS

### 2. Methods of problem solving.

As economic demand grew, humanity gradually began to develop computational methods. The process was chaotic and took a long time. It began to emerge in ancient times, when the first mathematical concepts, including the concept of natural numbers and arithmetic, began to take shape in humans. Their further development dates back to the formation of the ancient states of Babylon, Egypt, China, and others about five thousand years ago. During this period, new methods of writing numbers are created.

In ancient Babylon, it was counted in groups of sixty, that is, the number sixty system was used there. For example, the Babylonian mathematician described the number 137 as follows:  $137 = 2 * 60 + 17$ . Of course, these number symbols are written with triangles and dashes. The fact is that the ancient Babylonians printed clay triangular ponies for writing. Then they dried the bulam and set it on fire.

The ponalaming cases were used to write the number: the vertical position with the tip facing down and the horizontal position with the tip facing left. Then ▼ is sixty and ◀ is decimal

reported. Other numbers are represented by these symbols and the addition operation. For example, the number 5 is described as TTTTT.

The number 137 is as follows: ▼▼ ◀ ▼▼▼▼ TTT. The last notation is the notation in the hexadecimal number system:  $60 + 60 + 10 + 7 = 2 \cdot 60 + 17$ .

However, the writing of numbers that appeared in ancient Babylon had a flaw. It was difficult to mark large numbers in it. The base of the number system did not have a special symbol to denote the number 60, which led to different readings of some records. Why did the Babylonians use the number 60 as the basis of their number system? It is difficult to answer this question. All we have to say is that the ancient Babylonians had a large enough knowledge base in mathematics and astronomy in various fields. It is assumed that the formation of the number system of sixty was based on the division of the circle into 360 equal parts, as well as the enrichment of the year by 360 days. The remnants of this number system have survived to this day. To enrich the circle to 360°, you can also add angles, degrees, minutes and seconds.

The ancient Egyptians counted dozens. They only use one, ten, hundreds, thousands, and so on. Numbers from one to nine are written using sticks.

In the 5th and 12th centuries, mathematics developed significantly in India and the Middle East. In India and China, mathematics appeared 5,000 years ago, as in Egypt. Historians with Indian science They argue that Greek science is interdependent. In Greece, mainly geometry was developed, while in India, arithmetic, algebra and trigonometry achieved good results. Of particular importance are the contributions of Indian scientists to arithmetic, who have discovered the numbers that the whole of humanity is left with today. It dates back to the 6th century AD. What is this discovery? After all, people have been writing numbers since ancient times, haven't they? The fact is that the number invented by Indian mathematicians in such writing depends on the value of each number in its notation. For example, the number 7 in 703 means 7 hundred, the number 7 in 72 means 7 tens, and the number 7 in 7230 means 7 thousand. It follows that any number can be written using a number. Therefore, the number system is positional

system. If there were no rooms in the number, the Indians would say the word "empty" instead of saying that room number, and put a full stop in the blank space. Later, instead of dots, they drew a circle, which is derived from the word "sunya", which means "empty". The Arabic translation of the word "Sunya" has become the word "zero", which means number in our language.

Ten 0's in numbers; 1; 2; 3; 4; 5; 6; 7; 8; All 9 characters are called numbers.

Numbers in the decimal system were also invented by ancient Indian mathematicians. The original spelling of the link is very different from the current spelling. The present form of numbers was decided in the fifteenth century after the invention of book printing. Why are numbers invented in India often called Arabic numerals? The fact is that in the seventh century, the Arabs conquered a large number of highly developed states for almost 200 years. During the Arab Caliphate, cities such as India, Egypt, Central Asia, and Baghdad became centers of Arab culture. The Arabs translated, studied, and collected the importance of science, including the works of Greek, Indian, and Central Asian scholars.

It is no secret that Imam al-Bukhari had the ability to recite 600 hadiths at a glance, or that Zamakhshari, who was born in the village of Chelak in Samarkand Province, wrote the Arabic alphabet and was the first scholar to compile and publish the hadiths of Termezi in Sherabad.

One of the great scholars of the ninth century was the Uzbek (Khorezm) mathematician Muhammad ibn Musa al-Khwarizmi. His book, The Book of Algebra, introduced the name of algebra to science. This book describes the arithmetic problem and the rules for solving equations. In another book, al-Khwarizmi created Indian arithmetic, the decimal number system, which was invented in India. Three hundred years later, in the twelfth century, it was translated into Latin and became the first textbook on arithmetic for the whole of Europe. As a result, Indian decimal numbers became known as Arabic numerals because of the study of the decimal number system in European countries based on books written by authors living in the Arab world.

From the 12th century onwards, after a long period of stagnation in Western Europe, interest in mathematics arose due to the expansion of trade.

The spread of the decimal system in Europe was facilitated by Leonardo Fibonacci's 1202 book, The Book of Abacus. The decimal system was introduced in the 13th century and became fully used in Western Europe in the 16th century.

### 3. RESULTS

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#### **4. DISCUSSION**

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#### **5. CONCLUSION**

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#### **REFERENCES**

1. Bikboyeva N. and others. Second grade math textbook. - T .: "Teacher 0", 2008.
2. Jumayev M. Theory and methods of development of mathematical concepts in children. - T .: «Ilm-Ziyo», 2009.
3. Jumayev M. and others. Methods of teaching mathematics. - T .: «Ilm-Ziyo», 2003.
4. Jumayev M. Practicum on teaching methods of mathematics. —T .: "Teacher 0", 2004.
5. Jumayev M. Laboratory classes in mathematics in primary school. - T .: «Yangi asr avlodi», 2006.
6. Stoylava L. P., Pishkalo A. M. Fundamentals of Primary Mathematics. - T .: "Teacher", 1991.