



The Legacy of Indian Mathematics

Importance & Global Influence

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INTRODUCTION

- One of the oldest mathematical traditions, developed over thousands of years in the Indian subcontinent
- Originated from practical needs like astronomy, trade, architecture, and calendar-making
- Introduced the **decimal place value system** and **zero as a number**
- Made major contributions to **algebra, geometry, and trigonometry**
- Developed early ideas similar to **calculus**
- Key mathematicians include Aryabhata, Brahmagupta, and Bhaskara II
- Had a strong global influence, shaping modern mathematics and science.

What is Indian Mathematics?

Indian Mathematics refers to the mathematical developments that originated in ancient and medieval India.

Began as early as **1500 BCE (Vedic period)**

Focused on:

- Numbers and counting systems.
- Geometry (for rituals and constructions).
- Astronomy and calculations.
- Developed independently with unique approaches.

		INDIAN SYSTEM	
9 Digits	NINE TEN CRORES 90,00,00,000	CRORES	INDIAN SYSTEM
8 Digits	NINE CRORES 9,00,00,000		
7 Digits	NINE TEN LAKHS 90,00,000	LAKHS	
6 Digits	NINE LAKHS 9,00,000		
5 Digits	NINE TEN THOUSANDS 90,000	THOUSANDS	
4 Digits	NINE THOUSANDS 9,000		
3 Digits	NINE HUNDREDS 900	ONES	
2 Digits	NINE TENS 90		
1 Digit	NINE ONES 9		

KEY CONTRIBUTIONS



Concept of Zero (Shunhya)

Establishing zero as a numeral with value and specific rules for arithmetic operations.



Decimal Place Value System

The place-value system that simplified complex calculations and enabled modern science.

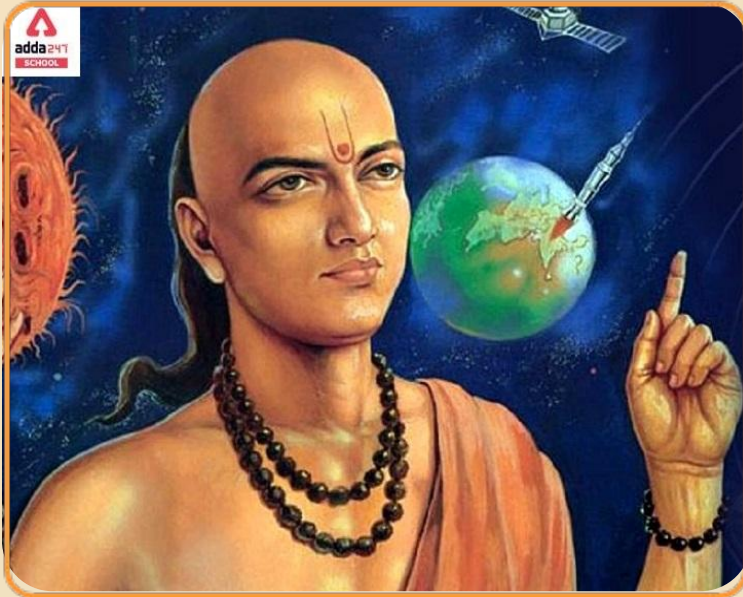


Algebra and Trigonometry

Pioneering concepts like *Jyā* (Sine) and *Kotijyā* (Cosine) for astronomical predictions.

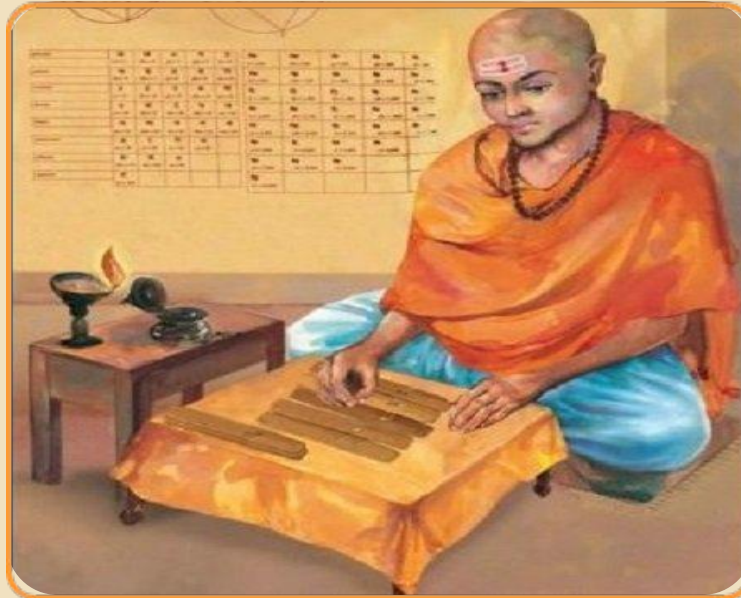
- **Approximation of π (pi).**
- **Large number system (lakhs, crores).**

FAMOUS INDIAN MATHEMATICIANS



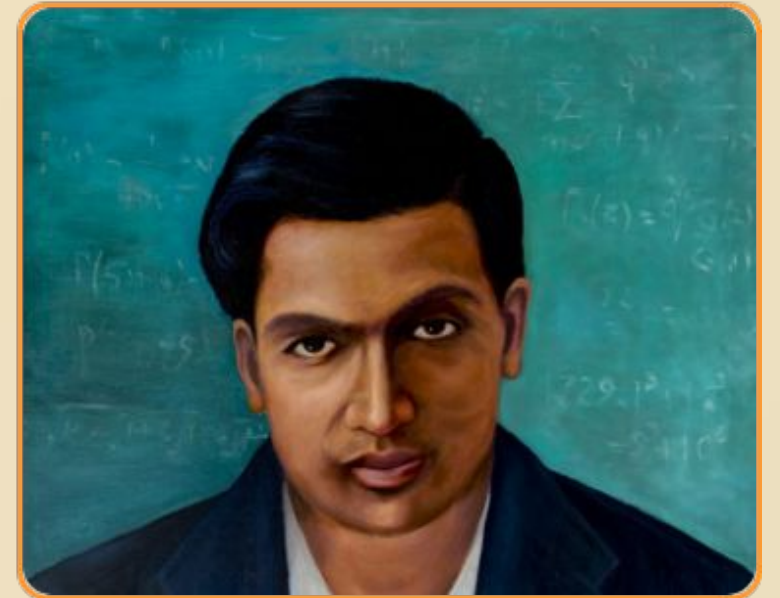
Aryabhata

Introduced place value system,
and worked on π (pi)



Brahmagupta

Rules for zero and negative numbers



S. Ramanujan

Advanced number theory

IMPORTANCE OF INDIAN MATHEMATICS

Foundation for modern Mathematics.

Used In :

- Science
- Engineering
- Astronomy
- Simplified Calculations using efficient methods.
- Inspired Later Mathematical discoveries worldwide.



GLOBAL INFLUENCE

Indian Mathematics

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Indian Mathematics Spread Globally

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- Transmitted to the **Arab World**, then to **Europe**.
- Became the basis of **modern number systems**.
- Influenced Algebra, Trigonometry and Scientific Calculations.

Today, we still use systems developed in India.

CONCLUSION

- Indian Mathematics is one of the **oldest and most influential** systems.
- Its innovations (like zero and decimals) are used **every day**.
- It played a key role in shaping **global mathematics**.

THANK YOU
