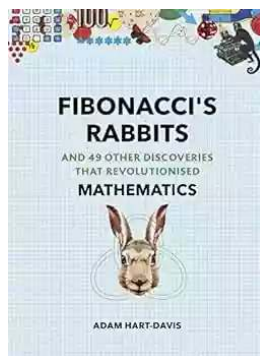# 50 Discoveries That Revolutionised Mathematics

Mathematics has always been a fascinating subject, exploring the intricacies of numbers, patterns, and abstract concepts to better understand the world around us. Throughout history, mathematicians have made groundbreaking discoveries that have reshaped our understanding of the subject and paved the way for further advancements.

In this article, we will delve into 50 significant discoveries that revolutionised mathematics, shaping the way mathematical concepts are conceived and applied.

1. The Invention of Zero

One of the most pivotal discoveries in mathematics was the invention of zero. While seemingly simple, the concept of zero revolutionised the way numbers were utilized and laid the foundation for more advanced mathematical ideas.

Fibonacci's Rabbits: And 49 Other Discoveries that Revolutionised Mathematics

by Adam Hart-Davis(Kindle Edition)

★★★★☆ 4 out of 5

|	
Language	: English
File size	: 6850 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 221 pages
Lending	: Enabled

Importance of Zero

- With zero, the existence of negative and decimal numbers is possible, which is important to concepts such as temperature.
- Zero is a "origin point" on some scales, allowing for a balanced start. (Neither positive or negative.)
- Zero is also important to rounding, which may require rounding to the nearest tens or higher, numbers that need zero.

The invention of zero allowed for the development of positional notation and enabled more sophisticated calculations, such as the concept of negative numbers and the decimal system.
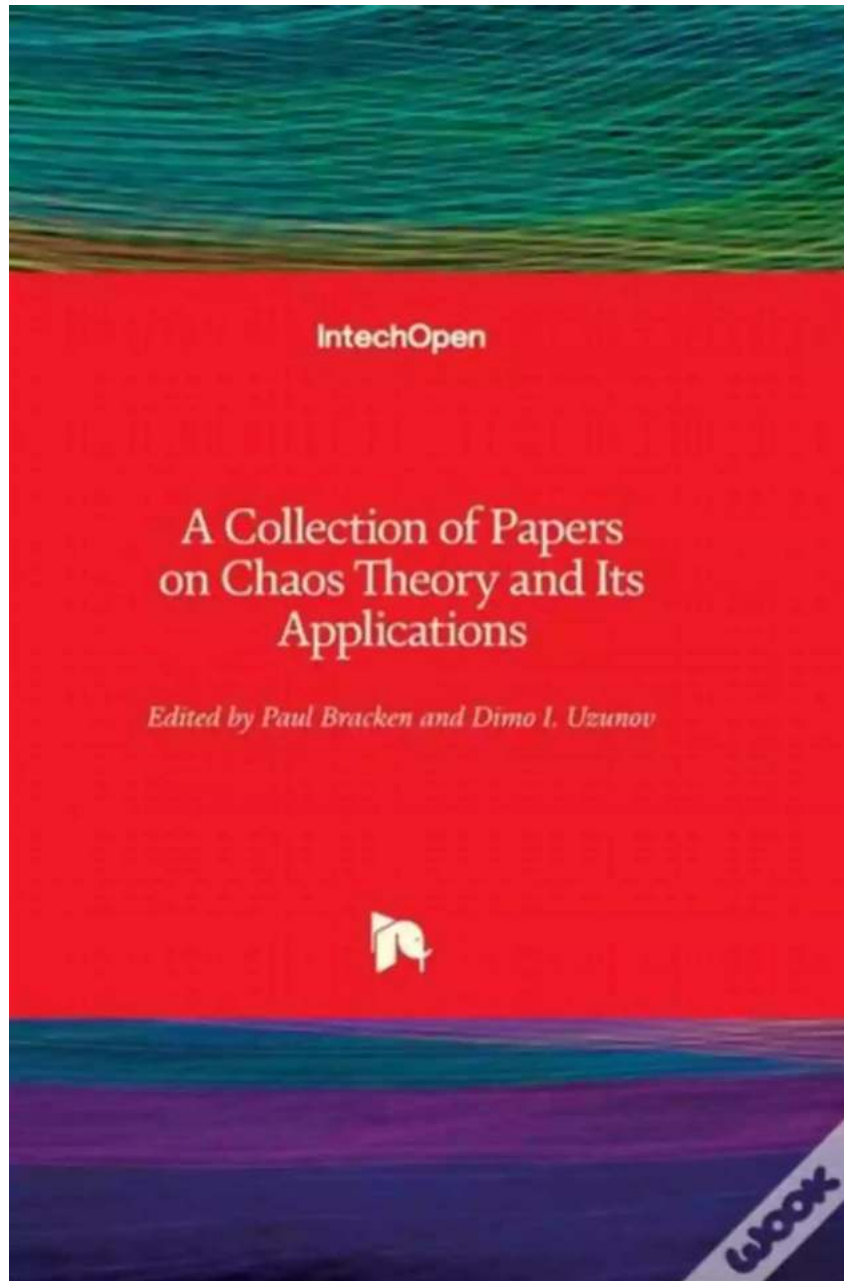
2. The Pythagorean Theorem

The Pythagorean theorem, named after the Greek mathematician Pythagoras, revolutionised the understanding of relationships between the sides of a right-angled triangle. It states that the square of the hypotenuse (the side opposite the right angle) is equal to the sum of the squares of the other two sides.
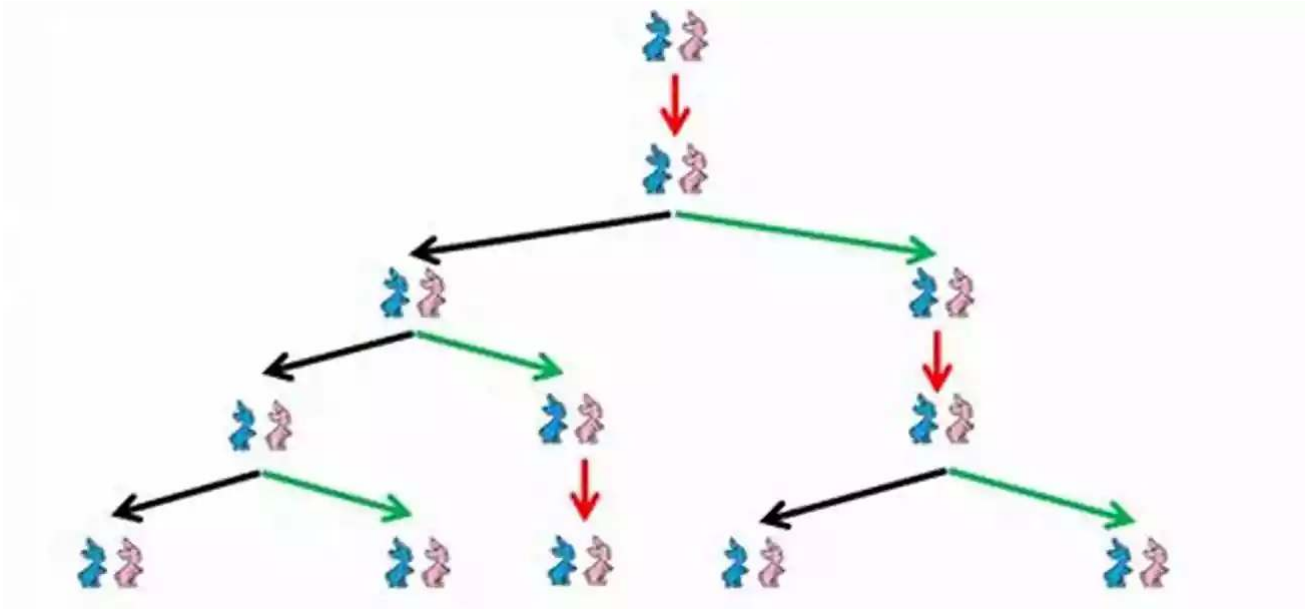
This theorem has applications in numerous fields, including architecture, engineering, and physics.

50. Chaos Theory

Chaos theory, a branch of mathematics dealing with the behavior of complex systems, has revolutionised our understanding of seemingly random phenomena. It studies how small changes in initial conditions can lead to drastically different outcomes in the long run.

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A Collection of Papers on Chaos Theory and Its Applications

Edited by Paul Bracken and Dimo I. Uzunov

Chaos theory has found applications in various fields, such as meteorology, economics, and cryptography.

These 50 discoveries are just a glimpse into the vast array of mathematical breakthroughs that have revolutionised our understanding of the subject. From zero to chaos theory, each discovery has contributed to the development and progression of mathematics as a whole.

Mathematics continues to evolve, and new discoveries are made every day, expanding our knowledge and pushing the boundaries of human understanding. The beauty and significance of these discoveries lie in their ability to explain the world around us and unlock the mysteries of the universe.
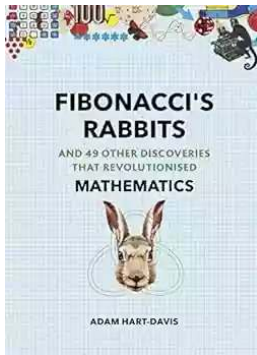
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The word 'mathematics' comes from the Greek word mathema, meaning knowledge or learning. And indeed mathematics is at the heart of almost all processes and patterns that occur in the modern world, yet many still find the discipline hard to fathom. Fibonacci's Rabbits solves this problem in bite-sized 'hops', describing the 50 most critical discoveries and revolutionary moments in the history of mathematics from Ancient Greece to the present day.

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