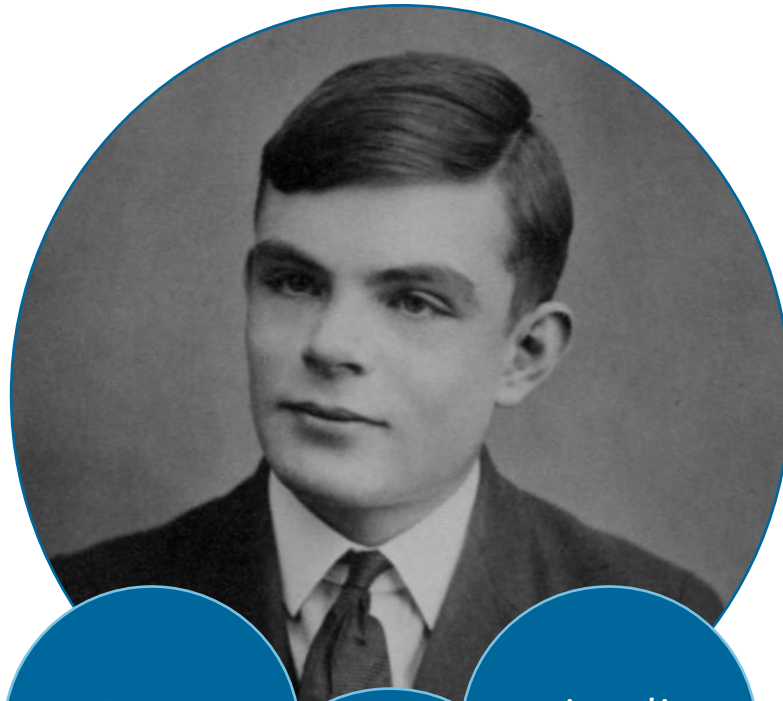


Famous Mathematicians

# Alan Turing



Born:  
1912

Nationality:  
British

Died:  
1954

Areas of expertise: Codebreaking and early computer theory.

Best known for:

- inventing a test called the Turing Test used to determine a machine's level of intelligence;
- inventing Turing machines – theoretical computers;
- his work at Bletchley Park during World War Two: the team that cracked the German Enigma code.

“Machines take me by surprise with great frequency.”

Famous Mathematicians

# Leonardo of Pisa (Fibonacci)



Born:  
1175

Nationality:  
Italian

Died:  
1250

Area of expertise: Number systems

Best known for:

- playing a key role in introducing the Hindu number system to Europe;
- giving his name to the sequence of numbers which is created by adding the previous two numbers together.

## Famous Mathematicians

# Euclid



Born:  
Mid- 4<sup>th</sup> century  
BC

Died:  
Mid- 3<sup>rd</sup> century  
BC

Nationality:  
Greek

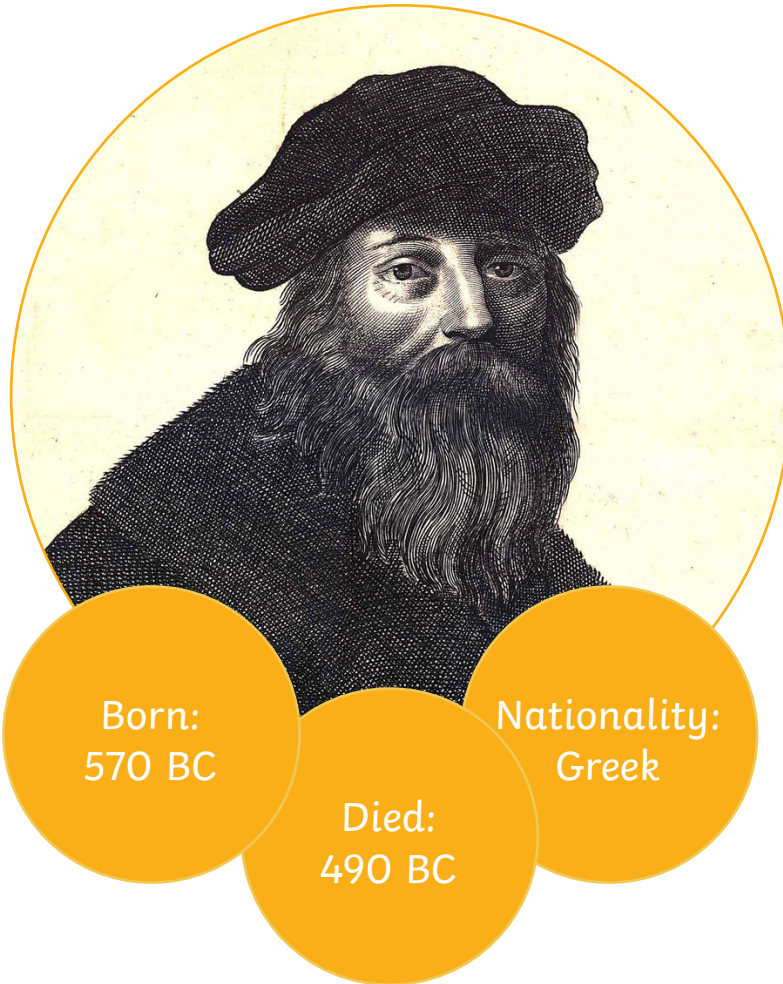
Areas of expertise: Geometry and Number Theory

Best known for:

- Euclidean Geometry: He is often referred to as the 'Father of geometry.'
- writing The Elements.

"The laws of nature are but the mathematical thoughts of God."

# Pythagoras of Samos



Areas of expertise: Geometry, Trigonometry

Best known for:

- developing Pythagorean Theorem;
- inspiring the Pythagorean Cult: One of the first groups to actively study mathematics.

“There is geometry in the humming of the strings, there is music in the spacing of the spheres.”

## Famous Mathematicians

# René Descartes



Born:  
1596

Nationality:  
French

Died:  
1650

Areas of expertise: Philosophy, Algebra, Geometry

Best known for:

- Cartesian Geometry – using two coordinates to identify points in two-dimensions;
- developing the use of algebraic notation;
- bringing algebra and geometry together.

“Divide each difficulty into as many parts as is feasible and necessary to resolve it.”

“In my opinion, all things in nature occur mathematically.”

## Famous Mathematicians

# Carl Friedrich Gauss



Born:  
1777

Nationality:  
German

Died:  
1855

Areas of expertise: number theory, algebra, physics

Best known for:

- finding a quick method to add the numbers 0-100 together whilst attending primary school;
- his work on prime numbers;
- proving the fundamental theorem of algebra.

“Mathematicians stand on each other’s shoulders.”

## Famous Mathematicians

# Leonhard Euler



Areas of expertise: calculus, topology, number theory, analysis and graph theory

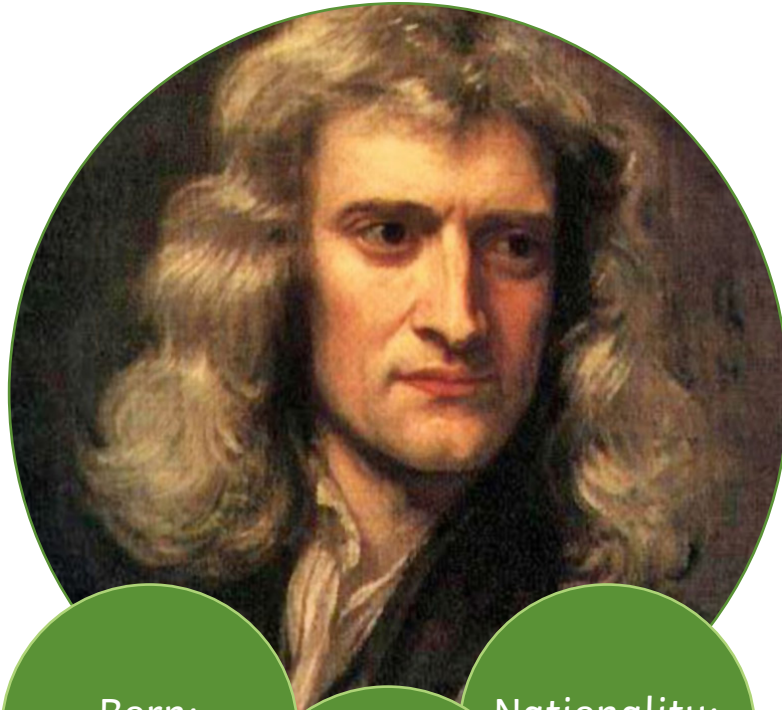
Best known for:

- introducing mathematical notation, e.g.  $\pi$ ;
- paving the way for modern mathematics.

“Mathematicians have tried in vain to this day to discover some order in the sequence of prime numbers, and we have reason to believe that it is a mystery into which the human mind will never penetrate.”

## Famous Mathematicians

# Sir Isaac Newton



Born:  
1642

Nationality:  
British

Died:  
1726

Areas of expertise: Calculus, gravitational theory, mechanics

Best known for:

- devising the theory of gravity after being hit by an apple on the head;
- inventing calculus;
- using mathematics to explain gravity and motion.

“Genius is patience.”



## Famous Mathematicians

# Ada Lovelace



Born:  
1815

Died:  
1852

Nationality:  
British

Area of expertise: Early computing

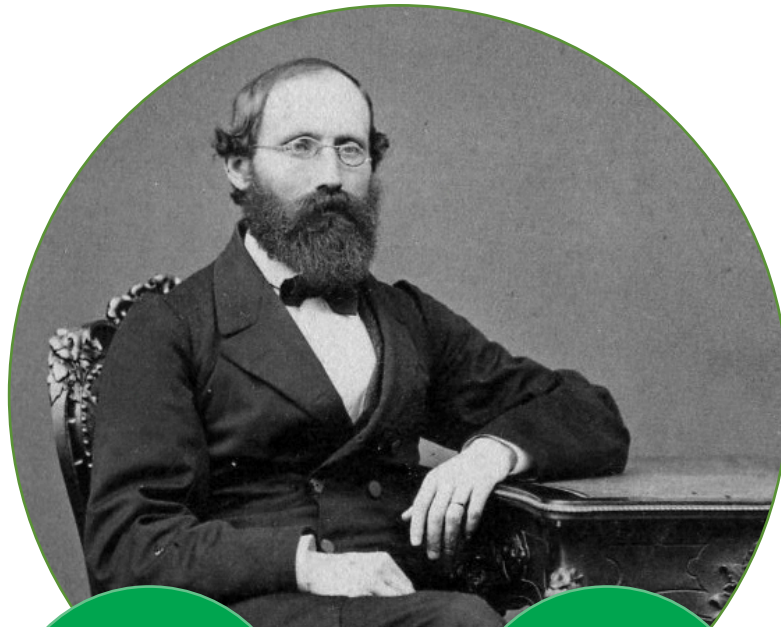
Best known for:

- credited with writing the first computer program;
- foreseeing the possibilities of computers.

“That brain of mine is something more than merely mortal, as time will show.”

## Famous Mathematicians

# G. F. Bernhard Riemann



Born:  
1826

Died:  
1866

Nationality:  
German

Areas of expertise: Geometry, prime numbers

Best known for:

- his original approaches to the study of geometry laying the mathematical foundation for Albert Einstein's theory of relativity.
- his contributions to the theory of functions, complex analysis, and number theory.

“If only I had the theorems! Then I should find the proofs easily enough.”

## Famous Mathematicians

# Mary Somerville



Born:  
1780

Nationality:  
Scottish

Died:  
1872

Areas of expertise: Science writing and academia

Best known for:

- being the first person to sign a massive petition to parliament to give women the right to vote;
- being elected to the Royal Astronomical Society in 1835 and awarded the Patron's Medal in 1869.

“Sometimes I find [mathematical problems] difficult, but my old obstinacy remains, for if I do not succeed today, I attack them again on the morrow.”

## Famous Mathematicians

# Florence Nightingale



Born:  
1820

Nationality:  
English

Died:  
1910

Areas of expertise: Statistics and nursing

Best known for:

- changing nursing practises;
- making statistics easier for politicians to understand by developing groundbreaking graphs and charts.

“How very little can be done under the spirit of fear.”

## Famous Mathematicians

# Maria Gaetana Agnesi



Born:  
1718

Nationality:  
Italian

Died:  
1799

Areas of expertise: Calculus and theology

Best known for:

- being the first woman to write a mathematics handbook;
- being the first woman appointed as a professor of mathematics at a university.

“Analytics [...] is the art of resolving all kinds of Mathematical Questions, by finding or computing unknown numbers, or quantities, by the means of others that are known or given.”

## Famous Mathematicians

# Hypatia



Born:  
c. 350-370

Died:  
415

Nationality:  
Greek

Areas of expertise: Arithmetic, geometry and astronomy

Best known for:

- being one of the first recognised female mathematicians;
- teaching astronomy and philosophy at a school in Egypt;
- being murdered brutally for what she was teaching.

“Reserve your right to think, for even to think wrongly is better than not to think at all.”

## Famous Mathematicians

# Caroline Herschel



Born:  
1750

Nationality:  
German

Died:  
1848

Areas of expertise: Astronomy

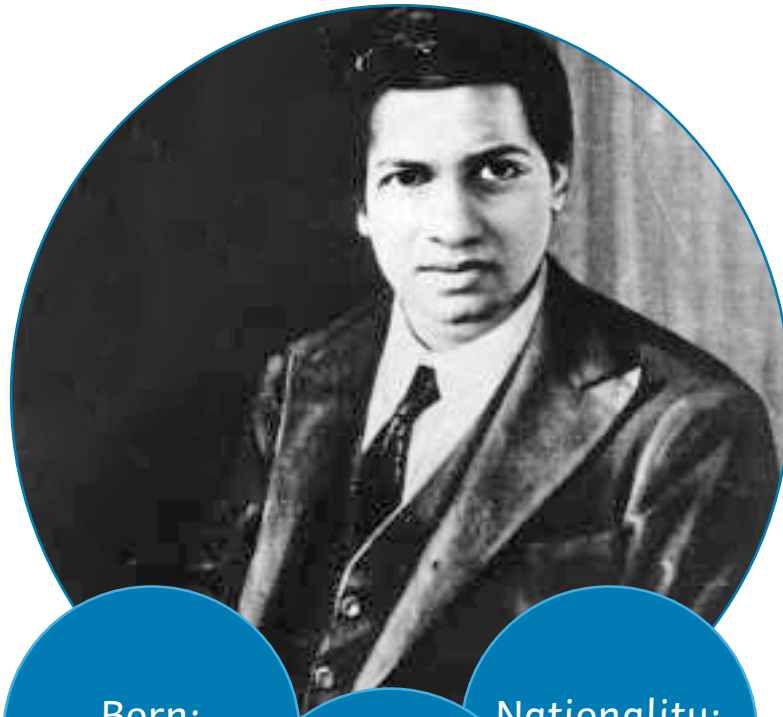
Best known for:

- being the first woman to discover a comet;
- becoming the first woman to receive a salary for services to science;
- receiving a gold medal from the Royal Astronomical Society.

“However long we live, life is short, so I work. And however important man becomes, he is nothing compared to the stars.”

## Famous Mathematicians

# Srinivasa Ramanujan



Born:  
1887

Nationality:  
Indian

Died:  
1920

Areas of expertise: Mathematical analysis, number theory, infinite series and continued fractions.

Best known for:

- opening up new directions of research for the infinite series for  $\pi$ .
- being inducted as a Fellow of the Royal Society, which is a Fellowship of some of the world's most renowned scientists.

“An equation means nothing to me unless it expresses a thought of God.”



## Famous Mathematicians

# Benjamin Banneker



Born:  
1731

Died:  
1806

Nationality:  
American

Area of expertise: Mathematics and astronomy

Best known for:

- his successful prediction of a solar eclipse.
- publishing his own almanac.
- being part of a team that surveyed and planned the capital of the United States.
- building the first ever fully wooden clock.

“The colour of the skin is in no way connected with strength of the mind or intellectual powers.”

Famous Mathematicians

# Sophie Germain



Born:  
1776

Died:  
1831

Nationality:  
French

Area of expertise: Number theory and elasticity

Best known for:

- being the first woman to win a prize from the Paris Academy of Sciences for her work in elasticity.
- her work on Fermat's Last Theorem.

“Algebra is nothing more than geometry, in words;  
geometry is nothing more than algebra, in pictures.”

## Famous Mathematicians

# Marjorie Lee Browne



Born:  
1914

Died:  
1979

Nationality:  
American

Area of expertise: Mathematics Educator

Best known for:

- being one of the first African-American women to receive a Ph.D. in mathematics.
- serving as a member on various educational boards such as the American Mathematical society and the Women's Research Society.
- her paper on the significance of topological properties and the relation between certain classical groups.

## Famous Mathematicians

# Muhammad ibn Musa al-Khwarizmi



Born:  
780

Died:  
850

Nationality:  
Persian

Area of expertise: Hindu-Arabic numerals and algebra

Best known for:

- his contributions to mathematics, geography and astronomy established the basis for the revolution in algebra and trigonometry.
- his strong advocacy for the Hindu numerical system.

# Archimedes of Syracuse



Born:  
288BC

Died:  
212BC

Nationality:  
Greek

Area of expertise: Geometry, as well as physics, engineering and astronomy.

Best known for:

- The Archimedes Principle – the amount of upward buoyant force exerted on something in water is equal to its weight;
- Creating formulae for calculating the area of circles and the surface area and volume of spheres;
- Creating a method to calculate the volume of an irregular object;
- Invented a method for calculating pi ( $\pi$ ).