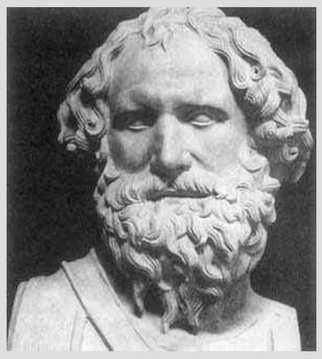
SOME IMPORTANT MATHEMATICIANS

Euclid
325 BC - 265 BC

Euclid was a Greek mathematician best known for his treatise on geometry: *The Elements* . This influenced the development of Western mathematics for more than 2000 years.



Archimedes
287 BC - 212 BC

Archimedes was the greatest mathematician of his age. His contributions in geometry revolutionised the subject and his methods anticipated the integral calculus. He was a practical man who invented a wide variety of machines including pulleys and the Archimidean screw pumping device.

Brahmagupta
598 - 670

Brahmagupta was the foremost Indian mathematician of his time. He made advances in astronomy and most importantly in number systems including algorithms for square roots and the solution of quadratic equations.

Al-Khwarizmi
790 - 850

Al'Khwarizmi was an Islamic mathematician who wrote on Hindu-Arabic numerals. The word *algorithm* derives from his name. His algebra treatise *Hisab al-jabr w'al-muqabala* gives us the word *algebra* and can be considered as the first book to be written on algebra.

Fibonacci
1170 - 1250

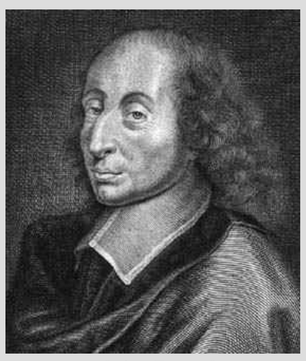
Leonard of Pisa or **Fibonacci** played an important role in reviving ancient mathematics and made significant contributions of his own. *Liber abaci* introduced the Hindu-Arabic place-valued decimal system and the use of Arabic numerals into Europe.

René Descartes
1596 - 1650

René Descartes was a French philosopher whose work, *La géométrie*, includes his application of algebra to geometry from which we now have Cartesian geometry. His work had a great influence on both mathematicians and philosophers.

Pierre Fermat
1601 - 1665

Pierre de Fermat was a French lawyer and government official most remembered for his work in number theory; in particular for Fermat's Last Theorem. He is also important in the foundations of the calculus.



Blaise Pascal
1623 - 1662

Blaise Pascal was a very influential French mathematician and philosopher who contributed to many areas of mathematics. He worked on conic sections and projective geometry and in correspondence with Fermat he laid the foundations for the theory of probability.

Isaac Newton
1643 - 1727

Isaac Newton was the greatest English mathematician of his generation. He laid the foundation for differential and integral calculus. His work on optics and gravitation make him one of the greatest scientists the world has known.

Gottfried Leibniz
1646 - 1716

Gottfried Leibniz was a German mathematician who developed the present day notation for the differential and integral calculus though he never thought of the derivative as a limit. His philosophy is also important and he invented an early calculating machine.

Jacob Bernoulli
1655 - 1705

Jacob Bernoulli was a Swiss mathematician who was the first to use the term integral. He studied the catenary, the curve of a suspended string. He was an early user of polar coordinates and discovered the isochrone.

Johann Bernoulli
1667 - 1748

Johann Bernoulli was a Swiss mathematician who studied reflection and refraction of light, orthogonal trajectories of families of curves, quadrature of areas by series and the brachistochrone.

Leonhard Euler
1707 - 1783

Leonhard Euler was a Swiss mathematician who made enormous contibutions to a wide range of mathematics and physics including analytic geometry, trigonometry, geometry, calculus and number theory.

Joseph-Louis Lagrange
1736 - 1813

Joseph-Louis Lagrange was an Italian-born French mathematician who excelled in all fields of analysis and number theory and analytical and celestial mechanics.

Pierre-Simon Laplace
1749 - 1827

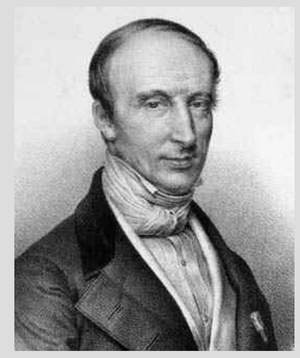
Pierre-Simon Laplace proved the stability of the solar system. In analysis Laplace introduced the potential function and Laplace coefficients. He also put the theory of mathematical probability on a sound footing.

Adrien-Marie Legendre
1752 - 1833

Adrien-Marie Legendre's major work on elliptic integrals provided basic analytical tools for mathematical physics. He gave a simple proof that π is irrational as well as the first proof that π^2 is irrational.

Carl Friedrich Gauss
1777 - 1855

Carl Friedrich Gauss worked in a wide variety of fields in both mathematics and physics incuding number theory, analysis, differential geometry, geodesy, magnetism, astronomy and optics. His work has had an immense influence in many areas.

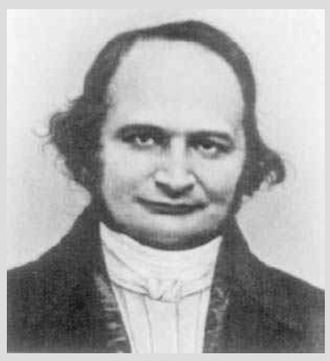


Augustin-Louis Cauchy
1789 - 1857

Augustin-Louis Cauchy pioneered the study of analysis, both real and complex, and the theory of permutation groups. He also researched in convergence and divergence of infinite series, differential equations, determinants, probability and mathematical physics.

Niels Abel
1802 - 1829

Niels Abel was a Norwegian mathematician who proved the impossibility of solving algebraically the general equation of the fifth degree.



Carl Jacobi
1804 - 1851

Carl Jacobi made basic contributions to the theory of elliptic functions. He carried out important research in partial differential equations of the first order and applied them to the differential equations of dynamics.

William Rowan Hamilton
1805 - 1865

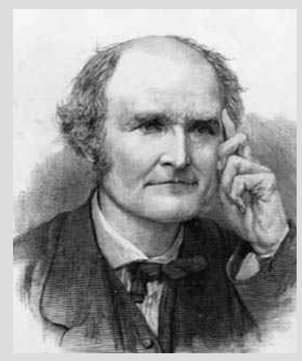
William Rowan Hamilton was an Irish astronomer and mathematician who discovered the quaternions.

Évariste Galois
1811 - 1832

Évariste Galois was a French mathematician who produced a method of determining when a general equation could be solved by radicals and is famous for his development of early group theory. He died very young after fighting a duel.

Karl Weierstrass
1815 - 1897

Karl Weierstrass is best known for his construction of the theory of complex functions by means of power series.



Arthur Cayley
1821 - 1895

Arthur Cayley's most important work was in developing the algebra of matrices and work in non-euclidean and *n*-dimensional geometry.

Bernhard Riemann
1826 - 1866

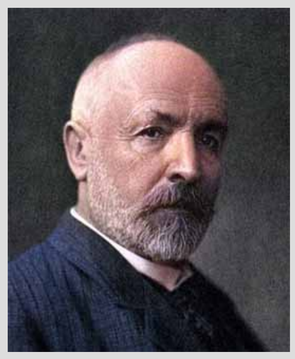
Bernhard Riemann's ideas concerning geometry of space had a profound effect on the development of modern theoretical physics. He clarified the notion of integral by defining what we now call the Riemann integral.

Richard Dedekind
1831 - 1916

Richard Dedekind's major contribution was a redefinition of irrational numbers in terms of Dedekind cuts. He introduced the notion of an ideal in Ring Theory.

James Clerk Maxwell
1831 - 1879

James Clerk Maxwell was a Scottish mathematician who did revolutionary work on electricity, magnetism, optics and on the kinetic theory of gases.

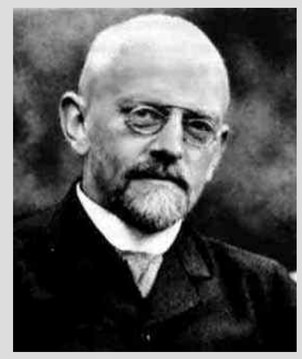


Georg Cantor
1845 - 1918

Georg Cantor was a Russian-born mathematician who can be considered as the founder of set theory and introduced the concept of infinite numbers with his discovery of cardinal numbers. He also advanced the study of trigonometric series.

Henri Poincaré
1854 - 1912

Henri Poincaré can be said to have been the originator of algebraic topology and of the theory of analytic functions of several complex variables.

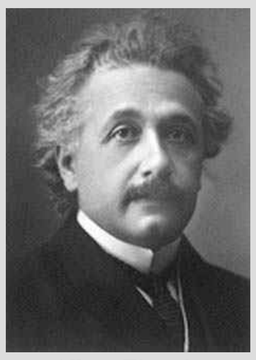


David Hilbert
1862 - 1943

Hilbert's work in geometry had the greatest influence in that area after Euclid. A systematic study of the axioms of Euclidean geometry led Hilbert to propose 21 such axioms and he analysed their significance. He made contributions in many areas of mathematics and physics.

G H Hardy
1877 - 1947

Hardy's interests covered many topics of pure mathematics:- Diophantine analysis, summation of divergent series, Fourier series, the Riemann zeta function and the distribution of primes.



Albert Einstein
1879 - 1955

Einstein contributed more than any other scientist to the modern vision of physical reality. His special and general theories of relativity are still regarded as the most satisfactory model of the large-scale universe that we have.

Emmy Noether
1882 - 1935

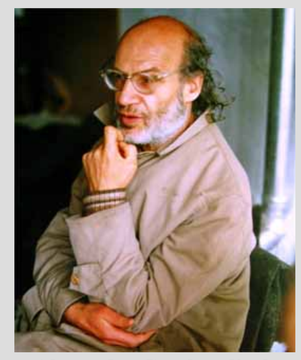
Emmy Noether is best known for her contributions to abstract algebra, in particular, her study of chain conditions on ideals of rings.

Srinivasa Ramanujan
1887 - 1920

Ramanujan made substantial contributions to the analytical theory of numbers and worked on elliptic functions, continued fractions, and infinite series.

John von Neumann
1903 - 1957

John Von Neumann built a solid framework for quantum mechanics. He also worked in game theory, studied what are now called *von Neumann Algebras*, and was one of the pioneers of computer science.



Alexander Grothendieck
1928 - 2014

Alexander Grothendieck was a German mathematician and Fields medal winner. He made important contributions in topology, algebra and logic.

For more **Mathematicians**, go to: https://mathshistory.st-andrews.ac.uk/