Mathematics and Physics timeline

Nasser M. Abbasi

January 31, 2024 Compiled on January 31, 2024 at 3:12am [public]

1 Summary timeline

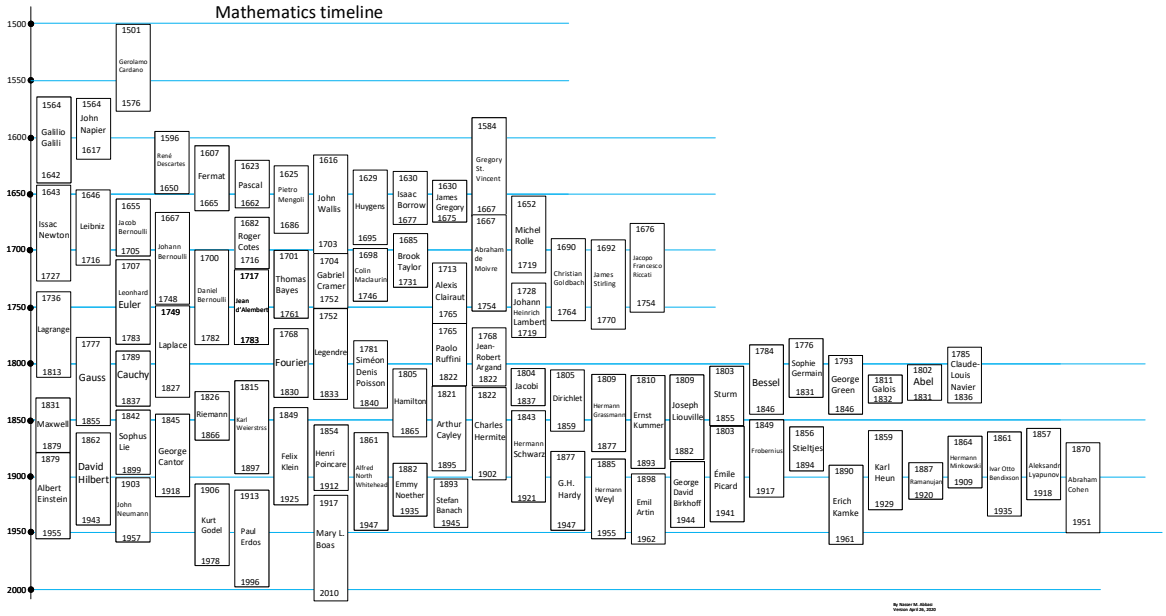
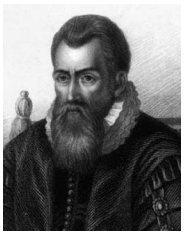


Figure 1: Summary timeline

2 Detailed timeline

1501-1576 • Gerolamo Cardano. Born 24 September 1501 Pavia, Died 21 September 1576 (aged 74) Italy.
"Algebra. first systematic use of negative numbers. published with attribution the solutions of other mathematicians for the cubic and quartic equations, and acknowledged the existence of imaginary numbers."
`https://en.wikipedia.org/wiki/Gerolamo_Cardano`

1550-1617 • John Napier. discovered logarithms. Use of decimal point.
`https://en.wikipedia.org/wiki/John_Napier`



1564-1642 • Galileo Galilei. Born 15 February 1564, Pisa, Duchy of Florence. Died 8 January 1642 (aged 77) Arcetri.
Pendulum, Gravity, astronomy.
`https://en.wikipedia.org/wiki/Galileo_Galilei`

1584-1667 • Gregory St. Vincent. Born: March 22, 1584, Bruges, Belgium, June 5, 1667, Ghent, Belgium.
Publishes in 1647 Opus geometricum quadrature ciculi et sectionum coni. First use of method of exhaustion in geometry. First use of method of chords to transform one conic to another. First use of geometric series. First to settle Zeno's Achilles paradox.
`https://en.wikipedia.org/wiki/Gr%C3%A9goire_de_Saint-Vincent`

1596-1650 René Descartes. Born: March 31, 1596, France, Died: Feb. 11, 1650, Stockholm, Sweden.
Wrote Descartes Meditations on First Philosophy (1641).
`https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes`

1607-1665 Pierre de Fermat. Born: 1607, Beaumont-de-Lomagne, France, Died: Jan. 12, 1665, Castres, France.
Important contributions to analytical geometry, probability, number theory and calculus.
`https://en.wikipedia.org/wiki/Pierre_de_Fermat`

1616-1703 John Wallis. Publishes Arithmetica infinitorum in 1655.
Created the arithmetical concept of limit. First to use the symbol ∞. First to use the term hyper-geometric series in his 1655 book Arithmetica Infinitorum.


GEOMETRIÆ PROFESSORIS
ARITHMETICA
INFINITORVM.

`https://en.wikipedia.org/wiki/John_Wallis`

1623-1662 Blaise Pascal. Born: June 19, 1623, Clermont-Ferrand, France. Died: August 19, 1662, Paris, France.
projective geometry. Corresponded with Pierre de Fermat on probability theory.
`https://en.wikipedia.org/wiki/Blaise_Pascal`

1625-1686 Pietro Mengoli.
Alternative proof that harmonic series diverges. posed the famous Basel problem, Solved by Euler in 1735. In 1650 proved that the sum of the alternating harmonic series is equal to the natural logarithm of 2.
`https://en.wikipedia.org/wiki/Pietro_Mengoli`

1629-1695 Christiaan Huygens.
One of his famous works is De horologio oscillatorio published in Paris in 1673. Invented pendulum clock. Wrote the first formal book on probability. Proposed the wave theory of light. Publication of his Opuscula posthuma in 1703 after his death.
`https://en.wikipedia.org/wiki/Christiaan_Huygens`

1630-1677 Isaac Barrow. Professor of Mathematics in London and Cambridge.
Famous for method of tangents. Publishes Lectiones geometrica (1670) and Lectiones mathematica (1683).
`https://en.wikipedia.org/wiki/Isaac_Barrow`

1638-1675 James Gregory. Born in Drumoak, United Kingdom.
Scottish mathematician. Taylor series. Died in Edinburgh, United Kingdom.
`https://en.wikipedia.org/wiki/James_Gregory_(mathematician)`

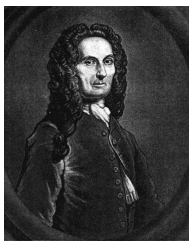
1643-1727 Isaac Newton. Born in Woolsthorpe, Lincolnshire, England.
`https://en.wikipedia.org/wiki/Isaac_Newton`

1646-1716 Gottfried Wilhelm Leibniz. Born in Leipzig, Germany.
`https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz`

1646-1716 Michel Rolle. Born 21 April 1652, Died 8 November 1719 (aged 67) Paris, Kingdom of France
French mathematician. Rolle's theorem (1691). Apparently he also knew about Gaussian elimination.
https://en.wikipedia.org/wiki/Michel_Rolle

1655-1705 Jacob Bernoulli. Born in Basel, Switzerland.
https://en.wikipedia.org/wiki/Jacob_Bernoulli

1667-1754 Abraham de Moivre.
French mathematician known for de Moivre's formula. worked on the normal distribution and probability theory. Was Friend of Newton.
https://en.wikipedia.org/wiki/Abraham_de_Moivre



1667-1748 Johann Bernoulli. Born in Basel, Switzerland.
https://en.wikipedia.org/wiki/Johann_Bernoulli

1676-1754 Jacopo Francesco Riccati. Born 28 May 1676 Venice, Italy, Died 15 April 1754 Italy(aged 77).
Named for the Riccati ODE
https://en.wikipedia.org/wiki/Jacopo_Riccati

1669 Isaac Newton becomes Chair of Mathematics in Cambridge when Isaac Barrow vacates this position for Newton.
https://en.wikipedia.org/wiki/Isaac_Newton

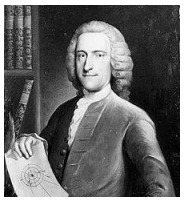
1669 • Isaac Newton.
Writes major Work on Calculus. "De analysi" or "On Analysis by Equations with an infinite number of terms". First time the series for $\sin(x)$ and $\cos(x)$ derived. Also gives Quadrature rules for first time. This work was actually published in 1711.
`https://en.wikipedia.org/wiki/De_analysi_per_aequationes_numero_terminorum_infinitas`

1671 • James Gregory. Finds power series for $\arctan(x)$

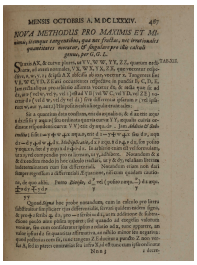
June 13, 1676 • Newton sends famous letter to H. Oldenburg, containing first announcement of binomial theorem using negative and fractional exponents.
`http://www.newtonproject.ox.ac.uk/view/texts/normalized/NATP00197`

1676 • Isaac Newton. epistola prio letter Newton sends to Leibniz giving for first time account of the Binomial series expansion

1682-1716 • Roger Cotes. Born: July 10, 1682, Burbage, United Kingdom, Died: June 5, 1716, Cambridge, United Kingdom.
Apparently Cotes knew of $e^{i\pi} = -1$ before Euler.
`https://en.wikipedia.org/wiki/Roger_Cotes`

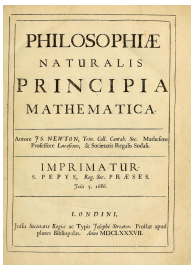


1684 • Gottfried Wilhelm Leibniz.
Publish first paper on differential calculus. "A new method for maxima and minima, and also tangents, which is impeded neither by fractional nor by irrational quantities, and a remarkable type of calculus for this".
`https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz`



1685-1731 • Brook Taylor. Born 18 August 1685, Edmonton, England. Died 29 December 1731 (aged 46) London, England.
Taylor's theorem, Taylor series.
`https://en.wikipedia.org/wiki/Brook_Taylor`

1687 • Isaac Newton. First edition of Principia Mathematica published.
https://en.wikipedia.org/wiki/Philosophi%C3%A6_Naturalis_Principia_Mathematica


PHILOSOPHIÆ
NATURALIS
PRINCIPIA
MATHEMATICA

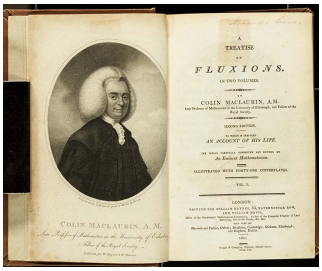
IMPRIMATUR
S. PEPYS, Reg. Soc. PRÆSES.

LONDINI,

1689 • Jacob Bernoulli.
Publication of "Treatise on infinite series and their finite sums".
https://www.thocp.net/biographies/bernoulli.html


JACOBI BERNOULLI,
ARS CONJECTANDI,
OPUS POSTHUMUM.
TRACTATUS
DE SERIEBUS INFINITIS,
DE LUDO PILÆ
RETICULARIS.
BASILEÆ,

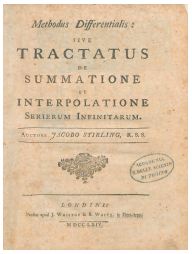
1698-1746 • Colin Maclaurin. Born February 1698 , Scotland. Died 14 June 1746 (aged 48) Edinburgh, Scotland.
EulerMaclaurin formula, Maclaurin series. Integral test for convergence. In 1742, he published a major work consisting of two volumes comprising 763 pages, A Treatise of Fluxions.
https://www.maa.org/press/periodicals/convergence/mathematical-treasure-maclaurins-treatise-on-fluxions


A
TREATISE
OF
FLUXIONS.
IN TWO VOLUMES.
COLIN MACLAURIN, A.M.
SECOND EDITION.
AN ACCOUNT OF HIS LIFE.
ILLUSTRATED WITH FORTY-ONE COPPER-PLATES.
LONDON:
COLIN MACLAURIN, A.M.

https://en.wikipedia.org/wiki/Colin_Maclaurin

1690-1764 • Christian Goldbach. Born March 18, 1690 Prussia, Died November 20, 1764 (aged 74) Moscow, Russian Empire.
Goldbach's conjecture: Every even integer greater than 2 can be expressed as the sum of two primes.
https://en.wikipedia.org/wiki/Christian_Goldbach
https://explainingscience.org/2019/09/01/the-goldbach-conjecture/

1692-1770 • James Stirling. Born May 1692, Scotland. Died 5 December 1770 (Aged 78) Edinburgh, Scotland
Stirling numbers, Stirling permutations, Stirling's approximation.
https://en.wikipedia.org/wiki/James_Stirling_(mathematician) https://hemarino18.wixsite.com/jamesstirling

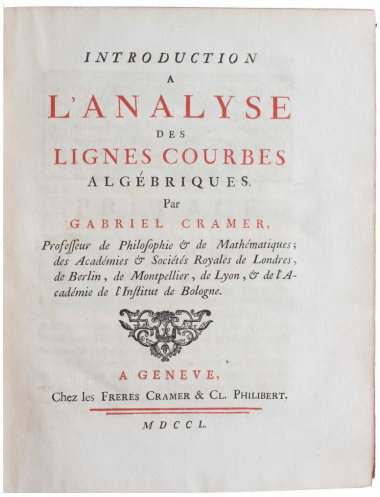


1700-1782 • Daniel Bernoulli. Born: Feb. 8, 1700, Groningen, Netherlands
Died: March 17, 1782, Basel, Switzerland.
Applications of mathematics to mechanics, fluid mechanics, and work in probability and statistics.
https://en.wikipedia.org/wiki/Daniel_Bernoulli

1701-1761 • Thomas Bayes. Born 1701 London, England. Died 7 April 1761 (aged 59), Kent, England.
statistician. Bayes' theorem.
https://en.wikipedia.org/wiki/Thomas_Bayes

1704-1752 • Gabriel Cramer. Born 31 July 1704 Geneva. Died 4 January 1752 (age 47), France

Cramer rule. (1750). Solution to the St. Petersburg Paradox . Treatise on algebraic curves (1750).



INTRODUCTION
A
L'ANALYSE
DES
LIGNES COURBES
ALGÉBRIQUES.
Par
GABRIEL CRAMER,
Professeur de Philosophie & de Mathématiques; des Académies & Sociétés Royales de Londres, de Berlin, de Montpellier, de Lyon, & de l'Académie de l'Institut de Bologne.
A GENEVE,
Chez les FRERES CRAMER & CL. PHILIBERT.
M D C C L.

https://en.wikipedia.org/wiki/Gabriel_Cramer

1705 • Jacob (James) Bernoulli. Died in Basel, Switzerland

1707-1783 • Leonhard Euler. Born April 15, 1707 in Basel, Switzerland. Many contributions. Graph theory, number theory, series expansion, integration, analysis, complex numbers. Hypergeometric series.

https://en.wikipedia.org/wiki/Leonhard_Euler

1713-1765 • Alexis Clairaut. Born 13 May 1713[1] Paris. Died 17 May 1765 (aged 52) Paris

Clairaut's theorem. gravitational three-body problem

https://en.wikipedia.org/wiki/Alexis_Clairaut

1713 • Isaac Newton. Second edition of Principia Mathematica published.

https://en.wikipedia.org/wiki/Philosophi%C3%A6_Naturalis_Principia_Mathematica

Nov. 14, 1716 • Gottfried Wilhelm Leibniz. Died. Hannover, Germany

1717-1783 • Jean le Rond d'Alembert. Born. Nov. 16, 171 Paris, France. First to propose that calculus be based on concept of limit. Analytical Solution to wave equation.
https://en.wikipedia.org/wiki/Jean_le_Rond_d%27Alembert

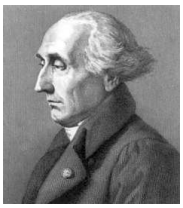
1726 • Leonhard Euler.
Dissertation published (Physical dissertation on sound).
https://scholarlycommons.pacific.edu/euler-works/2/

March 31, 1727 • Isaac Newton. Died. Kensington, London, United Kingdom
https://www.westminster-abbey.org/abbey-commemorations/commemorations/sir-isaac-newton

1728-1777 • Johann Heinrich Lambert. Born 26 August 1728, France. Died 25 September 1777 (aged 49) Berlin, Prussia.
Introduced hyperbolic functions into trigonometry. non-Euclidean space. First proof that π is irrational using a generalized continued fraction for the function $\tan x$. Formula for the relationship between the angles and the area of hyperbolic triangles. Theory of map projections.
https://en.wikipedia.org/wiki/Johann_Heinrich_Lambert

Oct. 1729 • Leonhard Euler.
Letter to Christian Goldbach showing first proposal to extend factorial to positive numbers which can be non-integer.
https://www.springer.com/gp/book/9783034808804

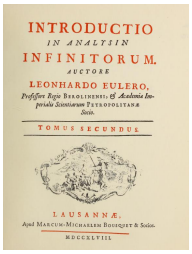
1736-1813 Joseph-Louis Lagrange. Born 25 January 1736, Died 10 April 1813 (aged 77) Paris, France.
Lagrange equations. Succeeded Euler as director of mathematics at Prussian Academy of Sciences in Berlin. Lagrange's treatise on analytical mechanics. Classical mechanics. Variational calculus. Number theory.



https://en.wikipedia.org/wiki/Joseph-Louis_Lagrange

1746 d'Alembert discovers the solution to wave equation named after him.
https://en.wikipedia.org/wiki/Wave_equation

1748 Leonhard Euler.
Publishes text "Introduction to analysis of infinite".
https://en.wikipedia.org/wiki/Introductio_in_analysin_infinitorum



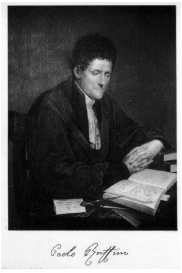
Jan. 1, 1748 Johann Bernoulli. Died in Basel, Switzerland.
https://en.wikipedia.org/wiki/Johann_Bernoulli

1749-1827 Pierre-Simon Laplace. Born: March 23, 1749, Beaumont-en-Auge, France Died: March 5, 1827, Paris, France.
Laplace's equation, and the Laplace transform. Wrote five-volume Mécanique Céleste

https://en.wikipedia.org/wiki/Pierre-Simon_Laplace
https://en.wikipedia.org/wiki/Trait%C3%A9_de_m%C3%A9canique_c%C3%A9leste

1752-1833 • Adrien-Marie Legendre. Born Sep. 18 1752, in Paris, France. French mathematician.
Legendre polynomials. Legendre transformation.
https://en.wikipedia.org/wiki/Adrien-Marie_Legendre

1765-1822 • Paolo Ruffini. Born September 22, 1765 Italy, Died May 10, 1822 (aged 56) Italy.
First proof (AbelRuffini theorem) that quintic (and higher-order) equations cannot be solved by radicals. Ruffini's rule. group theory. probability. quadrature of the circle.
https://en.wikipedia.org/wiki/Paolo_Ruffini



1768-1830 • Joseph Fourier. Born March 21,1768 in Auxerre, France.
Most famous for of Fourier series, and Harmonic analysis. Discovery of Greenhouse effect.
https://en.wikipedia.org/wiki/Joseph_Fourier

1768-1822 • Jean-Robert Argand. Born July 18, 1768 Geneva, Died August 13, 1822 (aged 54) Paris.
Argand diagram in complex analysis, the first rigorous proof of the Fundamental Theorem of Algebra.
https://en.wikipedia.org/wiki/Jean-Robert_Argand
https://prabook.com/web/jean-robert.argand/2202845

1776-1831 • Sophie Germain. Born 1 April 1776, France. Died 27 June 1831 (aged 55) Paris, France.
Elasticity theory (grand prize Paris Academy of Sciences). Worked on Fermat's Last Theorem. correspondence with Lagrange, Legendre, and Gauss
https://en.wikipedia.org/wiki/Sophie_Germain

1777-1855 • Carl Friedrich Gauss. Born in Brunswick, Germany. Born April 20, 1777.
Many contributions to Mathematics and Prime number theory. first satisfactory proof of the fundamental theorem of algebra. Quadratic reciprocity law. Full systematic treatment of Hypergeometric series. Hypergeometric function.
https://en.wikipedia.org/wiki/Carl_Friedrich_Gauss

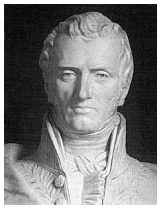
1781-1840 • Siméon Denis Poisson. Born 21 June 1781, France. Died 25 April 1840 (aged 58)
memoirs on the theory of electricity and magnetism. Applied mathematics. Poisson PDE named after him.
https://en.wikipedia.org/wiki/Sim%C3%A9on_Denis_Poisson

Sep. 18, 1783 • Leonhard Euler. Died in Saint Petersburg, Russia
https://www.findagrave.com/memorial/15567379/leonhard-euler

Oct. 29, 1783 • Jean le Rond d'Alembert. Died. Paris, France

1784-1846 • Friedrich Wilhelm Bessel. Born 22 July 1784 Germany. Died 17 March 1846 (aged 61) Russia.
Distance from the sun to another star by the method of parallax. Bessel functions.
https://en.wikipedia.org/wiki/Friedrich_Bessel

1785-1836 • Claude-Louis Navier. Born 10 February 1785, France. Died 21 August 1836 (aged 51) Paris
Known for NavierStokes equations.
https://en.wikipedia.org/wiki/Claude-Louis_Navier



1789-1857 • Augustin-Louis Cauchy. Born August 21, 1789 Paris, France. Foundation of analysis, complex number theory.
https://en.wikipedia.org/wiki/Augustin-Louis_Cauchy

1793-1841 • George Green. Born 14 July 1793, Died 31 May 1841. England. Green function, Green's theorem.


AN ESSAY

GEORGE GREEN.

https://en.wikipedia.org/wiki/George_Green_(mathematician)

1802-1829 • Niels Henrik Abel. Born 5 August 1802 Norway. Died 6 April 1829 (aged 26) Norway.
First complete proof demonstrating the impossibility of solving the general quintic equation in radicals. Elliptic functions. Abelian functions.
https://en.wikipedia.org/wiki/Niels_Henrik_Abel

1803-1855 • Jacques Charles François Sturm. Born 29 September 1803 Geneva. Died 15 December 1855 (aged 52) Paris
Sturm-Liouville form of ODE.
https://en.wikipedia.org/wiki/Jacques_Charles_Fran%C3%A7ois_Sturm

1804-1851 • Carl Gustav Jacob Jacobi. Born December 10, 1804, Potsdam, Germany, Died Feb. 18, 1851, Berlin, Germany.
German mathematician. Elliptic functions, dynamics, differential equations, determinants, and number theory.
https://en.wikipedia.org/wiki/Carl_Gustav_Jacob_Jacobi

1805-1859 • Johann Peter Gustav Lejeune Dirichlet. Born, 13 Feb. 1805, Duren, French Empire.
Analytic number theory, formulated conditions for Fourier series convergence.
`https://en.wikipedia.org/wiki/Peter_Gustav_Lejeune_Dirichlet`

1805-1865 • William Rowan Hamilton. Born: August 4, 1805, Dublin, Ireland. Died Sep. 2, 1865, Dublin, Ireland. Irish mathematician. Optics, classical mechanics and algebra, Hamiltonian mechanics. Quaternions. Hamiltonian equations.
`https://en.wikipedia.org/wiki/William_Rowan_Hamilton`

1809-1882 • Joseph Liouville. Born 24 March 1809, France. Died 8 September 1882 (aged 73) Paris, France
number theory, complex analysis, differential geometry and topology. Sturm-Liouville form of ODE.
`https://en.wikipedia.org/wiki/Joseph_Liouville`

1809-1877 • Hermann Grassmann. Born 15 April 1809 Poland. Died 26 September 1877 (aged 68), German Empire.
First known appearance of linear algebra and the notion of a vector space. First axiomatic presentation of arithmetic, use of the principle of induction. Grassmann's color law. Exterior algebra.
`https://en.wikipedia.org/wiki/Hermann_Grassmann`

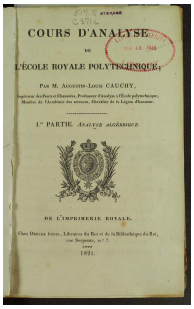
1810-1893 • Ernst Kummer. Born 29 January 1810 Sorau, Prussia. Died 14 May 1893 (aged 83) Berlin, Germany.
Hypergeometric series, Fermat's last theorem. Kummer extensions of fields.
`https://en.wikipedia.org/wiki/Ernst_Kummer`

1811-1832 Évariste Galois. Born: Oct. 25, 1811, Bourg-la-Reine, France Died: May 31, 1832, Paris, France. Galois theory: necessary and
sufficient condition for a polynomial to be solvable by radicals.
https://en.wikipedia.org/wiki/%C3%89variste_Galois

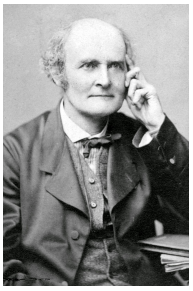
1815-1897 Karl Weierstrass. Born, Oct. 31, 1815. Ennigerloh, Germany.
https://en.wikipedia.org/wiki/Karl_Weierstrass

Weierstraß

1821 Augustin-Louis Cauchy. the Cours danalyse, to accompany his course in analysis at the Ecole Polytechnique
https://www.maa.org/press/periodicals/convergence/mathematical-treasure-cauchy-s-cours-d-analyse

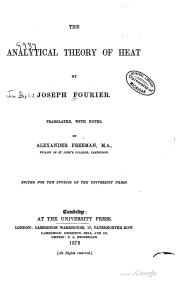


1821-1895 Arthur Cayley. Born: August 16, 1821, Richmond, United Kingdom. Died: Died: Jan. 26, 1895, Cambridge, United Kingdom. Algebra.
CayleyHamilton theorem, Cayley's theorem.
https://en.wikipedia.org/wiki/Arthur_Cayley

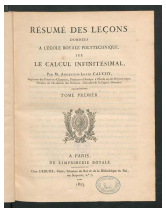


1822-1901 Charles Hermite. Born 24 December 1822. Died 14 January 1901 (aged 78) Paris.
Famous for Hermite polynomials and Hermite interpolation, spline, quadratic forms, elliptic functions and algebra.
https://en.wikipedia.org/wiki/Charles_Hermite

1822 • Joseph Fourier Publishes "The analytical theory of heat".
https://www.amazon.com/Analytical-Theory-Dover-Books-Physics/dp/0486495310


THE
ANALYTICAL THEORY OF HEAT
BY
JOSEPH FOURIER.
TRANSLATED, WITH NOTES,
BY
ALEXANDER FREEMAN, M.A.
FELLOW OF ST JOHN'S COLLEGE, CAMBRIDGE.
PRINTED FOR THE SYNDICS OF THE UNIVERSITY PRESS
Cambridge:
AT THE UNIVERSITY PRESS.
1878

1823 • Augustin-Louis Cauchy. Published Calcul Infinitésimal
https://www.maa.org/press/periodicals/convergence/mathematical-treasure-calculus-and-analysis-of-augustin-louis-cauchy


RÉSUMÉ DES LEÇONS
DONNÉES
A L'ÉCOLE ROYALE POLYTECHNIQUE
SUR
LE CALCUL INFINITÉSIMAL.
TOME PREMIER.
A PARIS,
DE L'IMPRIMERIE ROYALE.

1826-1866 • Bernhard Riemann. Born: Sep. 17, 1826, Kingdom of Hanover. Died: July 20, 1866, Verbania, Italy.
Formulation of the integral, the Riemann integral, and work on Fourier series. His famous 1859 paper on the prime-counting function. Riemann geometry.
https://en.wikipedia.org/wiki/Bernhard_Riemann

May 16, 1830 • Joseph Fourier Died in Paris, France

Jan. 10, 1833 • Adrien-Marie Legendre. Died in Paris, France

1831-1879 • James Clerk Maxwell. Born 13 June 1831 Edinburgh, Scotland. Died 5 November 1879 (aged 48) Cambridge, England. Mathematical physics. Maxwell's equations. Published "A Dynamical Theory of the Electromagnetic Field" in 1865.

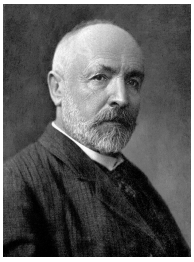
https://en.wikipedia.org/wiki/James_Clerk_Maxwell
https://en.wikipedia.org/wiki/A_Dynamical_Theory_of_the_Electromagnetic_Field

1842-1899 • Marius Sophus Lie. Born: December 17, 1842, Nordfjordeid, Norway. Died: Died: Feb. 18, 1899, Oslo, Norway. Norwegian mathematician.
Theory of continuous symmetry, study of geometry and differential equations. differential topology.
`https://en.wikipedia.org/wiki/Sophus_Lie`

1843-1921 • Karl Hermann Amandus Schwarz. Born 25 January 1843 Prussia. Died 30 November 1921 (aged 78) Berlin, Germany.
CauchySchwarz inequality. Improved the proof of the Riemann mapping theorem.
`https://en.wikipedia.org/wiki/Hermann_Schwarz`

1844 • Joseph Liouville proved the existence of transcendental numbers

1845-1918 • Georg Cantor. Born: March 3, 1845, Saint Petersburg, Russia Died: Jan. 6, 1918, Halle (Saale), Germany. Set theory.
`https://en.wikipedia.org/wiki/Georg_Cantor`



1849-1917 • Ferdinand Georg Frobenius. Born 26 October 1849 Berlin. Died 3 August 1917 (aged 67) Berlin.
Differential equations (Frobenius series). first full proof for the CayleyHamilton theorem. FrobeniusStickelberger formulae
`https://en.wikipedia.org/wiki/Ferdinand_Georg_Frobenius`

1849-1925 • Felix Klein. Born 25 April 1849, Germany. Died 22 June 1925 (aged 76) Germany.
Group theory, complex analysis, non-Euclidean geometry. Died: Jan. 6, 1918, Halle (Saale), Germany. Set theory.
`https://en.wikipedia.org/wiki/Felix_Klein`

1851 • Joseph Liouville.
Publish paper showing for first time a transcendental number $\sum_{k=1}^{\infty} \frac{1}{10^{k!}}$
http://mathshistory.st-andrews.ac.uk/Biographies/Liouville.html

1854-1912 • Henri Poincare, Born April 29,1854. Died July 17, 1912
https://en.wikipedia.org/wiki/Henri_Poincar%C3%A9

Feb. 23, 1855 • Carl Friedrich Gauss Died in Gottingen, Germany
https://en.wikipedia.org/wiki/Carl_Friedrich_Gauss

1856-1941 • Émile Picard.Born 24 July 1856 Paris, France. Died 11 December 1941 (aged 85) Paris, France
French mathematician. Picard iteration. differential equations. Picard's little theorem. algebraic topology.
https://en.wikipedia.org/wiki/%C3%89mile_Picard

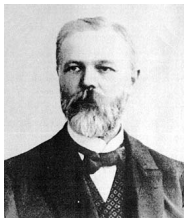
1856-1894 • Thomas Joannes Stieltjes. Born 29 December 1856, Netherlands. Died 31 December 1894 (aged 38) , France. continued fractions.
RiemannStieltjes integral.
https://en.wikipedia.org/wiki/Thomas_Joannes_Stieltjes

May 23, 1857 • Augustin-Louis Cauchy Died. Sceaux, France

May 5, 1859 • Johann Peter Gustav Lejeune Dirichlet. Died (aged 54), Gottingen, Kingdom of Hanover

1857-1918 Aleksandr Mikhailovich Lyapunov. Born June 6, 1857, Russian Empire. Died November 3, 1918 (aged 61) Ukrainian People's Republic.
stability theory of a dynamical system.
`https://en.wikipedia.org/wiki/Aleksandr_Lyapunov`

1859-1929 Karl Heun. Born 3 April 1859, Germany; died 10 January 1929, Germany.
Heun's equation, Heun special function, Heun's method.
`https://en.wikipedia.org/wiki/Karl_Heun`



1861-1947 Alfred North Whitehead. Born 15 February 1861, England. Died 30 December 1947 (aged 86) Cambridge, Massachusetts, US.
mathematical logic. Wrote Principia Mathematica with Bertrand Russell.
`https://en.wikipedia.org/wiki/Alfred_North_Whitehead`

1861-1935 Ivar Otto Bendixson. Born August 1, 1861, Stockholm Sweden. Died November 29, 1935 (aged 74) Stockholm Sweden.
PoincaréBendixson theorem.
"The PoincaréBendixson theorem, which says an integral curve which does not end in a singular point has a limit cycle, was first proved by Henri Poincaré but a more rigorous proof with weaker hypotheses was given by Bendixson in 1901"
"In 1902, he derived Bendixson's inequality which puts bounds on the characteristic roots of matrices"
`https://en.wikipedia.org/wiki/Ivar_Otto_Bendixson`

1862-1943 David Hilbert. Born: Jan. 23, 1862, Königsberg. Died: Feb. 14, 1943, Göttingen, Germany.
German mathematician. Invariant theory, calculus of variations, commutative algebra, algebraic number theory, Spectral theory of operators and its application to integral equations, mathematical physics.
`https://en.wikipedia.org/wiki/David_Hilbert`

1864-1909 Hermann Minkowski. Born: June 22, 1864, Aleksotas, Kaunas, Lithuania. Died: Jan. 12, 1909, Göttingen, Germany. German mathematician.
Geometry of numbers. Mathematical physics. Theory of relativity.
https://en.wikipedia.org/wiki/Hermann_Minkowski

1870-1951 Abraham Cohen. Born 11 Sep 1870, Died 25 Apr 1951 (aged 80)
Professor of Mathematics, Johns Hopkins University. Published "AN INTRODUCTION TO THE LIE THEORY OF ONE PARAMETER GROUPS WITH APPLICATIONS TO THE SOLUTION OF DIFFERENTIAL EQUATIONS" and "The Differential Equation" book.
https://www.findagrave.com/memorial/195027970/abraham-cohen

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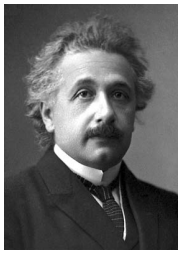
1875 Karl Weierstrass.
Paul duBois Reymond publishes account of Karl Weierstrass pathological function which is continuous at every point but differentiable nowhere. Karl first discovered this function in the 1860's. If $a \geq 3$ is an odd integer and if $0 < b < 1$ such that $ab > 1 + \frac{3\pi}{2}$ then the function $f(x) = \sum_{k=0}^{\infty} b^k \cos(\pi a^k x)$ is such.

1877-1947 G. H. Hardy. English mathematician. Born: Feb. 7, 1877, Cranleigh, United Kingdom. Died: December 1, 1947, Cambridge, United Kingdom.
Number theory and mathematical analysis
https://en.wikipedia.org/wiki/G._H._Hardy

1879-1955 Albert Einstein. Born: March 14, 1879, Ulm, Germany.
https://en.wikipedia.org/wiki/Albert_Einstein



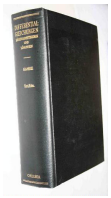
1882-1935 • Emmy Noether. Born: March 23, 1882, Erlangen, Germany Died: April 14, 1935, Bryn Mawr, PA.
Abstract algebra and theoretical physics.
https://en.wikipedia.org/wiki/Emmy_Noether

1884-1944 • George David Birkhoff. Born March 21, 1884, Michigan. Died November 12, 1944 (aged 60) Cambridge, Massachusetts.
American mathematician best. ergodic theorem. Dynamical systems. Geometry.
https://en.wikipedia.org/wiki/George_David_Birkhoff

1885-1955 • Hermann Weyl. Born 9 November 1885, Germany. Died 8 December 1955 (aged 70) Zurich, Switzerland.
Theoretical physicist. Combining general relativity with the laws of electromagnetism.
https://en.wikipedia.org/wiki/Hermann_Weyl

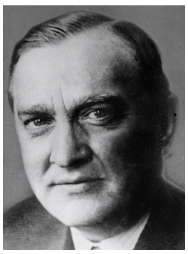
1887-1920 • Srinivasa Ramanujan. Born: December 22, 1887, Erode, India Died: April 26, 1920, Kumbakonam, India.
The Ramanujan prime, the Ramanujan theta function, partition formulae and mock theta function. Prime theory.
https://en.wikipedia.org/wiki/Srinivasa_Ramanujan

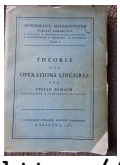
1890-1961 • Erich Kamke. Born 18 August 1890, German Empire. Died 28 September 1961 (aged 71), Germany.
Differential equations.



https://en.wikipedia.org/wiki/Erich_Kamke

1893-1945 • Stefan Banach. Born 30 March 1892 Poland, Died 31 August 1945 (aged 53), Ukraine.
modern functional analysis, Linear Operators, Banach spaces.
1932 book, Theory of Linear Operations.

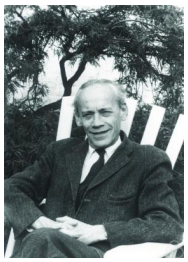




`https://en.wikipedia.org/wiki/Stefan_Banach`

Feb. 19, 1897 • Karl Weierstrass Died, Berlin, Germany

1898-1962 • Emil Artin. Born March 3, 1898 Vienna, Austria-Hungary, December 20, 1962 (aged 64) Hamburg, West Germany.
From wikipedia
"He is best known for his work on algebraic number theory, contributing largely to class field theory and a new construction of L-functions. He also contributed to the pure theories of rings, groups and fields."
`https://en.wikipedia.org/wiki/Emil_Artin`

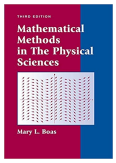


1903-1957 • John von Neumann. Born: December 28, 1903, Budapest, Hungary Died: Feb. 8, 1957, Bethesda, USA.
physics and computer science.
`https://en.wikipedia.org/wiki/John_von_Neumann`

1906-1978 • Kurt Gödel. Born: April 28, 1906, Austria-Hungary. Died: Jan. 14, 1978, Princeton, NJ.
Incompleteness theorems.
`https://en.wikipedia.org/wiki/Kurt_G%C3%B6del`

1913-1996 • Paul Erdos. Hungarian mathematician. Born: March 26, 1913, Budapest, Hungary. Died: Sep. 20, 1996, Warsaw, Poland.
`https://en.wikipedia.org/wiki/Paul_Erd%C5%91s`

1917-2010 • Mary L. Boas. Born March 10, 1917 Washington. Died February 17, 2010 Seattle, Washington
Most known for her book Mathematical Methods in the Physical Sciences



`https://en.wikipedia.org/wiki/Mary_L._Boas`

1955 • Albert Einstein. Died: April 18, 1955, Princeton Medical Center, NJ

3 Reference

1. `https://en.wikipedia.org/wiki/Writing_of_Principia_Mathematica`
2. `https://blogs.uoregon.edu/scua/2019/02/04/isaac-newtons-work-on-calculus-de-analysi-1711/`
3. Book: The Calculus Gallary. by William Dunham. Princeton Press 2005. `https://www.britannica.com/biography/James-Gregory`
4. A history of Mathematics, by Florian Cajori, 1919.
5. Images, thanks to `https://en.wikipedia.org` and `https://archive.org` and `https://www.maa.org` and `https://cosmosmagazine.com`