

emphasis is on publication dates

- (-1850) Egyptian Moscow papyrus
- (-1800) Babylonian Plimpton 322 (Pythagorean triples)
- (-1700) Babylonian YBC 7289 (square root of 2)
- (-1650) Egyptian Rhind papyrus
- ⋮
- (-800) Vedic era in India: Hindu scriptural texts like *Shatapatha Brahmana* contain math
- (-6th c.) intellectual flowering in China (age of Confucius and technological growth) sees academies of scholars founded
- ⋮
- (-540) Pythagoras establishes school in Croton
- (-450) Zeno's paradoxes
- (-4th c.) Aristotle responds to Zeno, codifies logical forms
- (-360) Eudoxus' theory of proportions, exhaustion
- (-300) Euclid's *Elements*
- (+140-415) heyday of Alexandria: Ptolemy, Diophantus, Pappus, Proclus, Hypatia
- ⋮
- (0) during Han dynasty, *Nine Chapters on the Mathematical Art* problems include solving simultaneous linear equations
- (190) Abacus mentioned in work of Xu Yue
- (3rd c) Chinese remainder theorem, early version
- ⋮
- (628) Brahmagupta writes on number theory and rules for zero
- ⋮
- (830) House of Wisdom in Baghdad: Al-Khwarizmi writes on quadratic equation in language of "rhetorical algebra"
- (1100) Khayyam works on the cubic equation and on Euclid's fifth postulate
- ⋮
- (1200) rough estimate: birth of the European university
- (1202) Fibonacci's *Liber Abaci* popularizes zero in Europe
- (1350) Oresme shows harmonic series diverges
- (15th c.) Indian mathematicians write about formula amounting to power series for arctan
- (1482) first printed Euclid
- ⋮
- (1550) cubic dispute (Cardano-Tartaglia)
- (1572) Bombelli works out formal algebra of complex numbers
- (1591) Viète breakthrough: letters for unknowns
- ⋮
- (1637) Descartes' *La Geometrie* (appendix to a mainly philosophical text) introduces coordinate geometry
- (1637) Fermat states "Fermat's Last Theorem" in the margin of his copy of Diophantus
- (1655) Wallis' *Arithmetica Infinitorum* derives testable formulas through abstraction/analogy, invites scorn of Hobbes
- (1665-1716) Newton-Leibniz calculus controversy
- (1696) L'Hôpital's rule (bought from Johann Bernoulli)
- ⋮

- (1733) Saccheri dies; *Euclides Vindicatus* published posthumously
- (1734) Bishop Berkeley attacks “infidel mathematician” in *The Analyst*, argues infinitesimals require a religion-like faith
- (1748) Euler’s major work on infinite series
- (1796) Legendre conjectures Prime Number Theorem (PNT)
- ⋮
- (1807) Gauss called to Gottingen; affirms “citizenship rights” of complex numbers and revolutionizes all fields of math, while publishing little (**pauca sed matura**)
- (1820s) multiple discoveries in non-Euclidean geometry (Lobachevsky, Bolyai, earlier by Gauss)
- (1826) Crelle’s journal established: first modern math journal
- (1830) Galois’ major papers deal with solvability by radicals and solutions of higher-degree polynomials
- (1859) Riemann hypothesizes “Riemann hypothesis”
- (1872) Weierstrass’s continuous nowhere differentiable function
- (1872) Klein’s Erlangen program: use symmetry (groups) to study geometry
- (1871) Dedekind kickstarts algebraic number theory, drawing on exploratory work of Dirichlet, Kummer, Eisenstein, Hermite, Kronecker
- (1877-78) math hits America: Sylvester becomes first math prof at JHU, founds AJM
- (1882-1904) Poincare’s papers modernize hyperbolic geometry, develop topology; “Poincare conjecture”
- (1874-97) Cantor publishes a series of papers developing theory of sets and the infinite
- (1896) PNT proved by Hadamard, de la Vallée Poussin
- ⋮
- (1900) Hilbert proposes problem list at Paris ICM
- (1902) Frege receives letter from Russell (Russell’s paradox) undermining his *Grundgesetz* while in press
- (1910) Russell and Whitehead’s *Principia Mathematica*
- (1914-18) Ramanujan in Cambridge
- (1918) Hausdorff on dimension; birth of fractals
- (1931) Gödel’s incompleteness theorem undermines foundational programs
- (1933) Jews expelled from German universities
- (1935) Noether dies; Bourbaki formed
- (1936) first Fields Medals awarded
- (1937) E.T. Bell’s *Men of Mathematics*
- (1949) Erdős-Selberg elementary proof of PNT
- (1963) Cohen resolves continuum hypothesis
- (1975) Mandelbrot coins “fractal”
- (1993) Wiles announces proof of Fermat’s Last Theorem
- ⋮
- (2000) Clay Mathematics Institute offers a million dollars each for seven “Millenium Problems,” including the Riemann Hypothesis and the Poincare Conjecture
- (2006) Perelman’s 2002 preprints are by now considered a proof of the Geometrization Theorem, and with it the Poincare Conjecture; Perelman rejects Fields Medal; million dollars pending