

A CALENDAR OF MATHEMATICAL DATES

V. Frederick Rickey

Department of Mathematical Sciences
United States Military Academy
West Point, NY 10996-1786 USA
Email: fred-rickey@usma.edu

SEPTEMBER

1 September

- 1648 Marin Mersenne died.
- 1659 Joseph Saurin born. In the early seventeenth century he defended the calculus against the criticisms of Michael Rolle. See DSB 12, 117.
- 1698 The last Russian year to begin on September 1. January 1, 1699 began a new year.
- 1835 Political economist William Stanley Jevons born. He did early work in symbolic logic and built an early logic machine, the first that could solve complicated problems faster than they could be solved by hand.
- 1848 Emil Weyr born.
- 1859 Carrington and Hodgson are first to observe a solar flare.
- 1936 The first meeting of the Association for Symbolic Logic was held in Cambridge, Massachusetts. Rudolf Carnap presented an invited address, "Truth in Mathematics and Logic," to an audience of three hundred. See *Journal of Symbolic Logic*, 1(1936), p. 120, or 27(1962), p. 258.
- 1939 World War II began, as German troops marched into Poland.
- 1964 The Ryukyu Islands issued a stamp commemorating the opening of the Ryukyu Islands–Japan microwave system for telephone and telegraph messages. Pictured is a parabolic antenna, one of the many applications of the reflective properties of the conics. [Scott #123]
- 1967 Harvey Friedman was appointed Assistant Professor of Mathematics at Stanford University, just three weeks before his nineteenth birthday. This is the youngest at which anyone has begun a university career. He is now a distinguished logician at The Ohio State University. (Guinness) See September 23, 1948, September 30, 1717, and November 19, 1982.

2 September

- 1808 Gauss writes Wolfgang Bolyai: "It is not knowledge, but the act of learning, not possession but the act of getting there, which grants the greatest enjoyment." [Eves, *Squared*, 203°]
- 1841 Paul Matthieu Hermann Laurent born. He developed statistical formulas for the calculation of actuarial tables and studied heat conduction.
- 1850 Alfred Pringsheim born.
- 1856 Wilhelm Franz Meyer born.
- 1865 William Rowan Hamilton died.
- 1878 Maurice Frechet born.
- 1923 René Thom born in Montbéliard, France. In 1958 he received a Fields Medal for his 1954 creation of cobordism in algebraic topology. His classification of manifolds used homotopy theory in a fundamental way and this work became an important example of general cohomology theory. See *International Mathematical Congresses. An Illustrated History, 1893–1986*, edited by Donald J. Albers, G. L. Alexanderson and Constance Reid.

- 1941 Norway issued a stamp commemorating the centennial of the cornerstone laying of a University of Oslo building. [Scott #246].
- 1958 The National Defense Education act was passed in response to Sputnik (4 October 1957). \$840 million was appropriated to improve the teaching of mathematics, science, and foreign languages.

3 September

- 1575 “In the sixteenth century, Western mathematics emerged swiftly from a millennial decline. This rapid ascent was assisted by Apollonius, Archimedes, Aristarchus, Euclid, Eutocius, Hero, Pappus, Ptolemy, and Serenus—as published by Commandino,” who died on this date. DSB 3, 364.
- 1752 The dates 3 to 13 September did not exist in England in 1752 due to the conversion to the Gregorian calendar. *Poor Richard’s Almanac* for 1752 carried the catchy heading, “September hath XIX days.” Much of Europe made the change in 1582, and since 1600 was a leap year under the Gregorian but not the Julian calendar, England had to omit eleven days, not ten. See 24 February 1755 and 5 October 1582.
- 1814 James Joseph, youngest child of Abraham Joseph, born in London. The eldest son, an actuary, eventually migrated to the U.S. where, for unknown reasons, he took the surname Sylvester. The rest of the family soon followed suit, so that is how James Joseph Sylvester got his name. [Eves, *Adieu*, 62°; *Osiris*, 1(1936), 87, indicates the eldest son’s original name was Sylvester Joseph and later he went by Sylvester Joseph Sylvester.]
- 1822 A wagon train containing three tons of books arrived at Allegheny College in Meadville, PA. They came from one of the finest private libraries in America, that of James Winthrop. He was a descendant of John Winthrop, first governor of the Massachusetts Bay Colony. His father was Professor of Mathematics and Natural Philosophy at Harvard and so the collection contained a number of important mathematical works. Winthrop was upset that Harvard had not given him an honorary degree and so he gave the books to Allegheny. [Allegheny College *Alumni Bulletin*, June 1933.]
- 1884 Solomon Lefshetz born in Moscow. He invented the phrase “algebraic topology.” See *A Century of Mathematics in America, Part I*, 1988, p. 171.

4 September

- 973 Birthdate of Al-Biruni who wrote 15 works on mathematics, three of which are extant. [DSB 2, 152]
- 1675 John Collins, after mentioning Tschirnhaus in a letter to James Gregory, writes: “... there being present with him a Dane named George Moorh [Georg Mohr (1640–1697)] who lately published in low Dutch, two little Books the one named *Euclides Danicus* where he pretends to perform all Euclids problems with a paire of Compasses only without Ruler, and another intituled *Euclides Curiosus*, wherein with a Ruler and a forke (or the Compasses at one opening) he performs the same ...” See MT 53(1960), 127–132.
- 1893 “The proof of the transcendency of π will hardly diminish the number of circle-squarers, however; for this class of people has always shown an absolute distrust of mathematicians and a contempt for mathematics that cannot be overcome by any amount of demonstration.” Felix Klein in *The Evanston Colloquium. Lectures on Mathematics* (1894), pp. 52–53.
- 1899 A 1904 academic calendar marked this day as the day Dedekind died. He wrote the publisher saying that while 4 September might be correct, 1899 certainly was not, for on that day he had enjoyed a stimulating mathematical discussion with his dinner guest and honored friend, Georg Cantor. See 12 February 1916. [Eves, *Revisited*, 281°]
- 1963 India issued a stamp honoring Dadabhoi Naoroji (1825–1917), mathematician and statesman. [Scott #376].
- 1969 Marcel Riesz died.

5 September

- 1666 The fire of London was extinguished after four days and nights. Some 13,000 buildings were destroyed. It took a lot of architects to rebuild. Sadly for mathematics, a talented young mathematician, who was also something of an architect was available. This explains how mathematics lost Christopher Wren.
- 1667 Girolamo Saccheri born. He was the first to publish the effects of denying Euclid's fifth postulate [MT, Sept 83].
- 1667 Henry Oldenburg died.
- 1935 "Emmy Noether's career was full of paradoxes, and will always stand as an example of shocking stagnancy and inability to overcome prejudice on the part of the Prussian academic and civil service bureaucracies. Her appointment as *Privatdozent* in 1919 was only possible because of the persistence of Hilbert and Klein, who overcame some extreme opposition from reactionary university circles. The basic formal objection was the sex of the candidate: 'How can we allow a woman to become a *Privatdozent!* after all, once she is a *Privatdozent*, she may become a Professor and member of the University Senate; is it permissible for a woman to enter the Senate?' This provoked Hilbert's famous reply: 'Meine Herren, der Senate is ja keine Badenanstalt, warum darf eine Frau nicht dorthin! [Gentlemen, the Senate is not a bathhouse, so I do not see why a woman cannot enter it!]'—from an address, "In Memory of Emmy Noether," delivered by P. S. Alexandrov, then president of the Moscow Mathematical Society. Quoted from *Emmy Noether: 1882–1935*, by Auguste Dick. Birkhäuser, 1981. [Notices AMS, 38(1991), 706]
- 1945 Romania issued two postage stamps to commemorate the 50th anniversary of the mathematics journal *Gazeta Mathematica*. Editors I. N. Ionescu (1870–1948), Gheorge Titeica (1873–1939), A. O. Idachimescu (1895–1943), and Vasile Cristescu (1869–1929) are pictured on the first of them. [Scott #596-7].

6 September

- 1620 149 Pilgrims set sail from England aboard the Mayflower, bound for the New World.
- 1893 Dimitrij Alexandrowitsch Grave born.
- 1909 Word was received that Admiral Robert Peary had discovered the North Pole five months earlier on April 6, 1909. Question: Where on the Earth, other than the North Pole, can one travel a mile South, a mile East, a mile North, and end up in the same spot?
- 1923 At an AMS meeting at Vassar College George Y. Ranich, then of the University of Michigan, gave a talk on the class number of quadratic fields. L. J. Mordell who was in the audience noted he made no reference to a rather pretty paper by one Rabinowitz of Odessa. When Mordell commented on this the speaker blushed and stammered "I am Rabinowitz." He had changed his name when he moved to the U.S. [Eves, *Adieu*, 131°; BAMS 29, pp. 433 and 437]
- 1927 Anna Johnson Pell Wheeler (1883–1966) began the 11th series of Colloquium Lectures at the American Mathematical Society Meeting in Madison, Wisconsin, being the first woman to be invited to do so. She spoke on "The theory of quadratic forms in infinitely many variables and applications." "One hundred twenty-seven persons attended these lectures, the largest number registered for any colloquium so far held, though . . . the gradient seems to be on the decrease." For a sketch of her life see HM 9(1982), pp. 37-53, especially p. 47. Need to check BAMS 33(1927), pp. 664-665 for exact date. All I have now is 6-10 Sept.
- 1930 Kurt Gödel, a logician who was immediately to become famous, addressed the annual meeting of the Deutsche Mathematiker-Vereinigung in Königsberg, on his completeness theorem. Gödel solved this problem for his doctoral dissertation under the direction of Hans Hahn in 1929.
- 1956 Witold Hurewicz died.
- 1979 Sweden issued a stamp portraying Johan Olof Wallin (1779–1839), Archbishop and poet, and

the array:

2	9	8
3	4	5
5	6	4

What is the significance of these numbers? (I don't know). [Scott #1294]

7 September

- 1460 Founding of the University of Basel. Both Bernoulli brothers later taught there.
- 1707 Georges-Louis Leclerc, Comte de Buffon born. Buffon's needle experiment uses probability to estimate π . He introduced calculus into probability theory.
- 1789 American writer James Fenimore Cooper born. He was expelled from Yale for roping a donkey into a professor's chair. Earlier he was put on probation for using gunpowder to blow open a dormitory door.
- 1844 In a letter to George Boole, Arthur Cayley indicated that he is "much interested" in a paper on quaternions by Sir William Rowan Hamilton: "the remarkable part of which is evidently that the factors of the product are not convertible [commutative], but as he observes, *why should they be?*" Hamilton's discovery of quaternions was an important step in the development of abstract algebra. [Desmond MacHale, *George Boole, His Life and Work*, Boole Press, Dublin, (1985), p. 57].
- 1884 Georges Valiron born.
- 1909 The first junior high school in the United States, Indianola School, was opened in Columbus, Ohio. [*Ohio and Its Resources*, Ohio Chamber of Commerce, p. 7]
- 1918 Peter Ludvig Mejdell Sylow died. He is remembered today for his three theorems in group theory.
- 1923 The AMS adopted a resolution "sanctioning the establishment of a lectureship to be known as the Josiah Willard Gibbs Lectureship, the lecture to deal in semi-popular form with some aspect of mathematics or its applications." [BAMS 29, 435] See 29 Feb. 1924.
- 1927 The first Polish Mathematical Congress opened. [Kuratowski, *A Half-Century of Polish Mathematics*, p. 53]
- 1930 Kurt Gödel, in a discussion on the foundations of mathematics organized by the Vienna Circle, announced his famous theorem on the incompleteness of arithmetic: There are true but unprovable statements. (Dawson)
- 1984 *Science* (pp. 1006-1007) reported that Louis de Branges of Purdue proved the 1916 Bieberbach conjecture which deals with one-to-one analytic functions on the unit disk which fix the origin. He proved that if a power series

$$f(z) = \sum_{n=1}^{\infty} a_n z^n$$

converges for all z in the unit disk, and $f(z)$ is one-to-one, then $|a_n| < n$ for all n . [*Mathematics Magazine* 50(1985), p. 53].

- 1985 George Pólya, Professor Emeritus at Stanford died at the age of 97. In 1963, Pólya received the MAA award for Distinguished Service to Mathematics. The George Pólya Award for noteworthy expository articles in the *College Mathematics Journal* is named in his honor.

8 September

- 1584 Gregorius Saint Vincent born. His *Opus geometricum* (1647) contains the most beautiful frontispiece of any mathematics text. In this work, Gregorius was the first to develop the theory of the geometric series and also the first to show that the area under a hyperbola is a logarithm.
- 1588 Marin Mersenne born. He served as the hub of the most important correspondence network for scientists in the seventeenth century.

- 1679 Leibniz told Huygens of his *characteristica generalis*, which involved a universal mathematics that later blossomed into the symbolic logic of George Boole, and still later, in 1910, into the great *Principia Mathematica* of Whitehead and Russell. [Thanks to Howard Eves]
- 1882 Joseph Liouville died.
- 1930 Hilbert's radio broadcast in Königsberg. It contains the famous phrase "Wir müssen wissen. Wir werden wissen." (We must know, we will know). These optimistic words are inscribed over Hilbert's grave in Göttingen. A recording is available in the *Gedenkband*. [Thanks to Smoryński]

9 September

- 1409 Pope Alexander V confirms the University of Leipzig. [Muller]
- 1883 Victor Puiseux died.
- 1945 First computer "bug" logged at 1545 hrs. Grace Hopper was running the computer at the time and there was a failure. When she investigated she found that a moth had gotten into the machinery and caused the problem. She removed it and taped it into the log book of the computer. Thus a bit of computer jargon was born.
- 1967 The Soviet Union issued a postage stamp showing checker players with part of a board in the background. Although more than 50 stamps have been issued on chess, this was the first on checkers. [*Journal of Recreational Mathematics*, 2(1969), 50]
- 1977 Czechoslovakia issued a stamp picturing a book illustration by Nicole Claveloux for a book of Lewis Carroll. Pictured are a bear and flamingos. [Scott #2133].

10 September

- 1542 In an apocryphal letter to Rabelais, Charles V of Spain offered 1000 escudos for the solution of the quadrature of the circle problem. This letter was one of 27,345 forged by Denis Vrain-Lucas between 1861 and 1869 and sold to Michel Chasles for 140,000 francs. [*Mathematics Magazine* 61 (1988), pp. 159-160].
- 1749 Emilie du Châtelet died of childbed fever (Voltaire was her lover then, but not the father of the child). Ten years later her annotated translation of Newton's *Principia* was published. It is still the only French translation. [DSB 3, 216]
- 1838 Charles Sanders Peirce born.
- 1885 Galton introduced regression.
- 1931 Ernst Eduard Kummer (1810–1893) solved a prize problem dealing with the expanding $\sin(nx)$ in powers of \sin and \cos which was posed by his professor Heinrich Ferdinand Scherk, and consequently was awarded his Ph.D. degree at age 21 from the University of Halle. He taught as a Gymnasium teacher for 11 years before he became a professor at the University of Breslau. [DSB 7, 521; Thanks to Howard Eves]
- 1931 Dimitri Fjodorowitsch Jegorow died.
- 1948 Walther Mayer, the Austrian born mathematician who collaborated with Einstein on the theory of relativity, died in Princeton NJ at the age of 61.

11 September

- 1789 Alexander Hamilton appointed the first secretary of the U.S. Treasury. It is because of him that we did not adopt the English system of counting money, but a decimal system instead.
- 1798 Franz Ernst Neumann born. He formulated the law of electromagnetic induction [MT, Sept 83].
- 1831 After a four hour disputation in Latin, Jacobi was appointed professor at the University of Königsberg. While there he inaugurated what was then a complete novelty in mathematics—research seminars—assembling the more advanced students and interested colleagues. [DSB 7, 50]
- 1890 Felice Casorati died.
- 1940 Complex Computer demonstrates first remote computation.

12 September

- 1873 First typewriter.
- 1876 Johns Hopkins University, the first true graduate school in the U.S., formally opened its doors with an address—and without the benefit of a prayer—by the evolutionist T. H. Huxley. A Presbyterian minister wrote “It is bad enough to invite Huxley. It were better to have asked God to be present. It would have been absurd to ask them both.” [Abraham Flexner, *Daniel Coit Gilman. Creator of the American Type of University*, pp. 84 and 87.]
- 1877 George Hamel born.
- 1906 Ernesto Cesàro died of injuries sustained while aiding a drowning youth. [DSB 3, 179]
- 1918 Maxime Bôchner died.
- 1959 The Soviet spaceship LUNA 2 was launched. It was the first spacecraft to land on the moon. Exactly eleven years later, LUNA 12 was launched. It was the first spacecraft to land on the moon, collect samples, and return to Earth.

13 September

- 1873 Constantin Carathéodory born. He worked on the calculus of variations and the theory of real functions. He is the only modern Greek mathematician “who does not suffer by comparison with the famous names of Greek antiquity.” [DSB 3, 62]
- 1883 Opening of the University of Texas at Austin and Galveston. [Muller]
- 1885 Wilhelm Blaschke born.
- 1959 *Lunik II* hit the moon, being the first man-made object to do so.
- 2007 Closing date for a prize for a solution to Fermat’s last theorem. Due to inflation the prize of one hundred thousand marks has long been worthless. See 27 June 1908.

14 September

- 1752 The Gregorian calendar adopted in Britain. See 3 September 1752.
- 1814 Francis Scott Key wrote “The Star-Spangled Banner.”
- 1858 Henry Burchard Fine born in Chambersburg, Pennsylvania. After earning his Ph.D. in Germany he joined the Princeton faculty. He is responsible for building that department into a world class mathematics department. The mathematics building at Princeton is named in his honor. [DSB 4, 618].
- 1906 Franz Rellich born.

15 September

- 1739 Euler, in a letter to Johann Bernoulli, begins the general treatment of the homogeneous linear differential equation with constant coefficients. [See Ince, p. 534, for further references.]
- 1782 Lagrange, in a letter to Laplace, told of finishing his *Mécanique analytique*. Legendre undertook the editing of the work for the press. [Thanks to Howard Eves]
- 1846 George Boole, age 30, applied for a professorship at “any of her Majesty’s colleges, now in the course of being established in Ireland.” Although he had “never studied at a college” he had been a teacher for 15 years and was “familiar with the elementary and the practical as well as the higher Mathematics.” Although he was self taught, the testimonies of DeMorgan, Cayley, and William Thomson showed that he was an accomplished mathematician. In August 1849, he was appointed the first professor of mathematics at Queen’s College Cork. The reason for the long delay is unclear. [MacHale, *George Boole, His Life and Work*, pp. 75-84].
- 1855 Sylvester commenced his duties as professor of mathematics and lecturer in natural philosophy at the Royal Military Academy, Woolwich, and one of the richest research periods of his life began. [Osiris, 1(1936), 101]
- 1926 Jean-Pierre Serre born in Bages, France. In 1954 he received a Fields Medal for his work on the homotopy groups of spheres. He also reformulated some of the main results of complex variable

theory in terms of sheaves. See *International Mathematical Congresses. An Illustrated History, 1893–1986*, edited by Donald J. Albers, G. L. Alexanderson and Constance Reid.

1947 ACM (Association for Computing Machinery) founded.

16 September

1494 Francesco Maurolico born.

1693 In a letter to John Locke, Newton apologized for ill thoughts that he had harbored against Locke. [Thanks to Howard Eves]

1848 Weierstrass came to the Catholic Gymnasium in Braunsberg, his third such position. That year he taught mathematics 19 hours per week, took over the geography class after Easter, and received a special note of thanks for helping out in gym! [From the annual report of the Gymnasium in the University of Louisville's Bullitt Collection of Mathematics. But see also DSB 14, 220]

1986 "Four out of three jocks can't count," read a headline in *The Harvard Lampoon's* parody of *USA Today*.

17 September

1787 U.S. Constitution signed. Its format was influenced by the axiomatic approach of Euclidean Geometry. See ??? the date of the Gettysburg address, which was influenced by Non-Euclidean Geometry.

1802 Baron Georg von Vega (b. 1754), a military officer and mathematician famous for his military campaigns and his table of logarithms, was murdered for "his money and his watch." [Eves, *Adieu*, 257°; Muller]

1826 Georg Friedrich Bernhard Riemann born.

1908 Death of Thomas E. Selfridge, a 1903 classmate of Douglas MacArthur at West Point, whose tombstone at West Point reads "Gave up his life in the service of his country at Fort Myers, Virginia, September 17, 1908, falling with the first government aeroplane." The pilot, an Ohio bicycle maker named Orville Wright, survived. [Rick Atkinson, *The Long Grey Line* (1989), pp. 1–2]

1985 The *Los Angeles Times* reported that scientists at Chevron tested their new \$10 million Cray X-MP supercomputer and discovered the 30th Mersenne Prime and largest known prime, $2^{216,091} - 1$. [Part I, pp. 3, 19; *Mathematics Magazine* 59(1986), p. 182].

18 September

1752 Adrien-Marie Legendre born. He helped found the theory of elliptic functions.

1783 After having discussed the topics of the day, the Montgolfiers, and the discovery of Uranus, "He [Euler] ceased to calculate and to live," according to the oft-quoted words of de Condorcet. [Big Kline, 403, has the Julian date.]

19 September

1648 The theory of atmospheric pressure and the existence of a vacuum were confirmed by experiments designed by Blaise Pascal. [*Scripta Mathematica* 26(1963), p. 288]

1749 Jean-Baptiste Joseph Delambre born in Amiens, France. He conducted a geodetic survey between Dunkerque and Rodez which was instrumental in establishing the length of the meter. [DSB 4,15]

1783 The brothers Montgolfier repeated their experiment of 4 June 1783, in the presence of Louis XVI at Versailles. At one o'clock the crowd went wild as the balloon soared gracefully free carrying a rooster, a sheep, and a duck. See also 21 November 1783.

1894 "The purpose of mathematical logic is to analyze the ideas and reasoning that especially figure in the mathematical sciences," wrote Peano to Felix Klein. [DSB 10, 443]

1952 Otto Szasz died.

- 1966 Netherlands Antilles (Curaçao) issued four stamps honoring the seven liberal arts. The stamp for arithmetic and geometry pictures an abacus. Interestingly, logic is excluded from this series of stamps. [Scott #304-7]

20 September

- 1842 Alexander von Brill born.
- 1848 The American Association for the Advancement of Science met for the first time, in Philadelphia.
- 1887 Erich Hecke born.
- 1904 First circle flown, by Wilbur Wright. [Air & Space]
- 1916 The National Research Council met for the first time, in New York. President Woodrow Wilson founded it for “encouraging the investigation of natural phenomena” for American business and national security.
- 1930 Moritz Pasch died.
- 1939 Hermann Brunn died.
- 1948 John von Neumann gave his first lecture on the theory of automata. In this lecture, which was later published, he drew attention to the fundamental importance of the Universal Turing Machine. [A. Hodges, *Alan Turing. The Enigma*, p. 388]
- 1954 Harlan Herrick of IBM runs the first successful FORTRAN program.

21 September

- 1576 Girolamo Cardano died. One story says that it was by his own hand so as to fulfill his earlier astrological prediction of his death on this date. [Eves, *Introduction to the History of Mathematics*, 221]
- 1781 Lagrange wrote d’Alembert “I begin to sense my ‘force of inertia’ growing little by little, and I am not sure that I will be able to pursue Geometry ten years from now. It seems also that the mine is almost too deep already, and that unless new seams [of ore] are discovered, it will be necessary to abandon it sooner or later.” This pessimistic view that mathematics was drying up was shared by many in the late eighteenth century including Diderot, Buffon, and Voltaire. [Hawkins, *Jean d’Alembert*, p. 99].
- 1784 First U.S. daily newspaper began publication.
- 1984 *Science* reported (pp. 1379-1380) that Narendra Karmarkar of AT & T Bell Labs found a practical polynomial-time algorithm that is far faster than the simplex algorithm for linear programming problems. [*Mathematics Magazine* 58 (1985), p. 53].

22 September

- 1602 In a public address at Tübingen University, Michael Mastlin, Kepler’s teacher, on the basis of chronological research put Jesus’ birth more than four years before the conventional date of A.D. 1. This date is now generally accepted. [DSB 9, 168]
- 1636 From a letter by Fermat to Roberval, it is clear that Fermat conceived the idea of analytic geometry as early as 1629, yet he published nothing on the subject. [Struik, *Source Book*, p. 397]
- 1703 Vincenzo Viviani died. His problem of cutting four congruent windows in a hemispherical cupolo so that the remainder was quadrable led to Euler’s development of the double integral.
- 1765 Paolo Ruffini born. He anticipated Abel by providing an almost correct proof of the insolubility of the quintic.
- 1791 Michael Faraday born. He was an English scientist and early experimenter with electricity.
- 1792 This date is considered the beginning of the Republican Calendar of France, for on this date the Republic was proclaimed and this was also the date of the autumnal equinox in that year. The new calendar was not officially approved until 5 October 1793. See Cecil B. Read, “A book printed in the year VII,” *The Mathematics Teacher*, 59(1966), 138-140.

1822 “Jean-François Champollion the younger wrote his famous *Lettre à Monsieur Dacier, secrétaire perpétuel de l’Académie royale des inscriptions et belles-lettres, relative à l’alphabet des hiéroglyphes phonétiques*. On that day he opened the great book of Ancient Egypt, sealed for some two thousand years and now at last decipherable.” Quoted from p. 15 of *Tutankhamen* (1963) by Christiane Desroches-Noblecourt.

1949 The U.S. nuclear monopoly ended as the Soviet Union detonated its first atomic bomb.

23 September

1647 Descartes, on a visit on September 23-24 to France from Holland, met with Pascal. On this occasion Descartes may have recommended the experiment of noting the variation in the height of the barometer with altitude. [J. F. Scott, *The Scientific Work of René Descartes*, p. 6]

1768 William Wallace born.

1846 Johann Galle and Heinrich Louis d’Arrest discovered Neptune based on Urbain Leverrier’s (1811–1877) calculations. Amazingly they found it the first night they looked. J. Adams (1819–1892) independently calculated the orbit. This marvelous feat based on a mathematical prediction really stirred up the scientific community. [DSB 1, 53, and 1, 295]

1877 Urbain Jean Joseph Leverrier died. [Muller]

1884 Patent filed for Hollerith tabulating machine. It was used in the 1890 census and became the model for computer cards.

1897 “Bourbaki is a pen name of a group of younger French mathematicians who set out to publish an encyclopedic work covering most of modern mathematics.” So wrote Samuel Eilenberg in *Mathematical Reviews*, 3(1942), 55–56. He was the first to reveal in print that Bourbaki was a pseudonym—but the name was appropriated from a real general, Charles Denis Sauter Bourbaki, who died on this date at the age of 81. See Joong Fang, *Bourbaki*, Paideia Press, 1970, pp. 24, 27.

1948 Harvey Friedman born.

1983 *The Los Angeles Times* reported that David Slowinski of Cray research has found the 29th Mersenne prime: $2^{132,049} - 1$. [*Mathematics Magazine* 57 (1984), p. 52]. See September 17, 1985.

24 September

1501 Girolamo Cardano born. Famous for his *Ars magna* of 1545, which contained detailed and systematic algebraic solutions to cubic and quartic equations. He was one of the most colorful figures in the whole history of mathematics, as is well illustrated in his autobiography, *The Book of My Life*.

1625 Jan de Witt born. This statesman for the Netherlands wrote, before 1650, one of the first systematic developments of the analytic geometry of the straight line and conics. It was printed in Van Schooten’s second Latin edition of Descartes’ geometry (1659–1661). See DSB 14, 465.

1651 Étienne Pascal died. The limaçon is named after him, and not after his famous son who later came blazing on the scene.

1801 Mikhail Vasilievich Ostrogradsky born.

1844 Max Noether born.

1894 Werner Rogosinski born.

1938 Hungary issued a stamp commemorating the 400th anniversary of the founding of Debrecen College. George Maróthy (1715–1744) is pictured. [Scott #533].

1938 Lew Genrichowitsch Schnirelmann died.

25 September

1493 Columbus set sail on his second voyage to America.

1513 Balboa discovered the Pacific.

1644 Olaus Roemer, Danish astronomer, born. He was the first to measure the speed of light.

- 1654 Fermat writes to Pascaal defending his combinatorial method that Pascal had previously regarded as incorrect. [*Archive for History of Exact Science*, vol. 17, p. 237; Thanks to Kullman]
- 1777 Johann Heinrich Lambert died.
- 1819 George Salmon born.
- 1852 Christoph Guderman died.
- 1888 Stefan Mazurkiewicz born.
- 1944 Denmark issued a stamp commemorating the 300th anniversary of the birth of Ole Roemer, the astronomer who first measured the speed of light. [Scott #293].
- 1955 Franz Rellich died.
- 1959 Gregor Michailowitsch Fichtenholz died.

26 September

- 1766 Giulio Carlo Fagnano dei Toschi died. He is important for the identity

$$\frac{\pi}{4} = \ln\left(\frac{1-i}{1+i}\right)^{i/2}$$

and for his rectification of the lemniscate. [DSB 4, 515].

- 1868 August Ferdinand Möbius died. He discovered his famous strip in September 1858. Johann Benedict Listing discovered the same surface two months earlier. [DSB 9, 431]
- 1877 Herman Grassman died.

27 September

- 1830 American Statesman Charles Sumner (1811-1874) paid little attention as an undergraduate at Harvard, but a year after graduation he became convinced that mathematics was a necessary part of a complete education. To a classmate he wrote: "Just a week ago yesterday, I commenced Walker's Geometry, and now have got nearly half through. All those problems, theorems, etc., which were such stumbling-blocks to my Freshman-year career, unfold themselves as easily as possible now. You will sooner have thought, I suppose, that fire and water would have embraced than mathematics and myself; but, strange to tell, we are close friends now. I really get geometry with some pleasure. I usually devote four hours in the forenoon to it." Quoted from Florian Cajori's *Mathematics in Liberal Education* (1928), p. 115.
- 1879 Hans Hahn born.
- 1979 Department of Education established.
- 1987 Saint Vincent de Paul day. The devout Catholic, Augustin Cauchy was active in the Saint Vincent de Paul society, Irish relief, and homes for unwed mothers. [DSB]

28 September

- 551 B.C. Birthdate of the Chinese philosopher and educator Confucius. His birthday is observed as "Teacher's Day" in memory of his great contribution to the Chinese Nation. His most famous aphorism is: "With education there is no distinction between classes or races of men."
- 490 B.C. In one of history's great battles, the Greeks defeated the Persians at Marathon. A Greek soldier was dispatched to notify Athens of the victory, running the entire distance and providing the name and model for the modern "marathon" race.
- 1573 Italian painter and sculptor, Michelangelo Buonarroti, born.
- 1820 Friedrich Engels born in Germany.
- 1841 Friedrich Prym born.
- 1873 Birthdate of the American geometer Julian Lowell Coolidge. After an education at Harvard (B.A. 1895), Oxford (B.Sc. 1897), Turin (with Corrado Serge) and Bonn (with Eouard Study, Ph.D. 1904), he came back to Harvard to teach until he retired in 1940. He was an enthusiastic teacher with a flair for witty remarks. [DSB 3, 399]

1917 Richard Courant wrote to Nina Runge, his future wife, that he finally got the opportunity to talk to Ferdinand Springer about “a publishing project” and that things looked promising. See 24 November 1918 for the result. [Constance Reid, *Courant in Göttingen and New York. The Story of an Improbable Mathematician* (Springer 1976), p. 69]

1961 Erich Kamke died.

29 September

1801 Gauss’s *Disquisitiones Arithmeticae* published. [Buhler, *Gauss*, p. 44].

1803 Charles Francois Sturm born. His theorem helps locate roots of polynomials.

1928 Erich Steinitz died.

1941 Friedrich Engel died in Giessen, Germany.

30 September

1717 Colin Maclaurin (1698–1746), age 19, was appointed to the Mathematics Chair at Marischal College, Aberdeen, Scotland. This is the youngest at which anyone has been elected chair (full professor) at a university. (Guinness) In 1725 he was made Professor at Edinburgh University on the recommendation of Newton. Cf. Sept. 1 1967.

1775 Robert Adrain born. Although born in Ireland he was one of the first creative mathematicians to work in America.

1810 The University of Berlin opened. Also listed as 15 October. Check it out.

1883 Ernst Hellinger born.