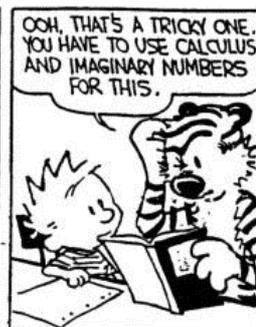
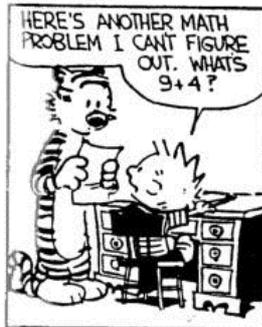
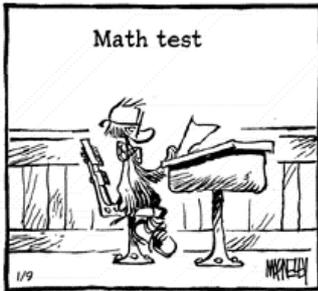


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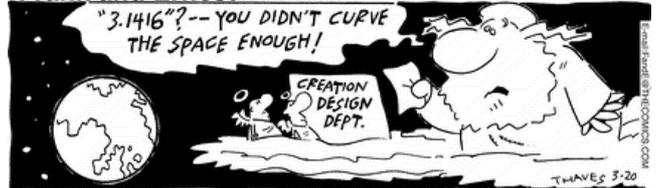


Frank and Ernest

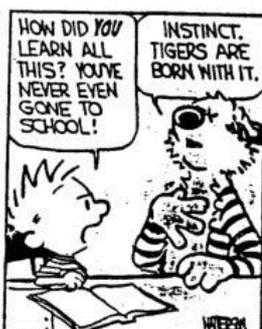
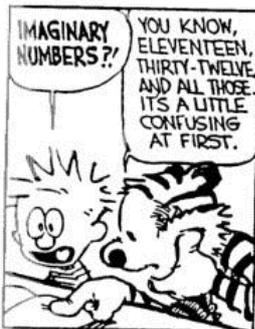


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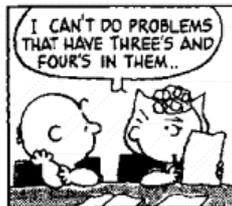
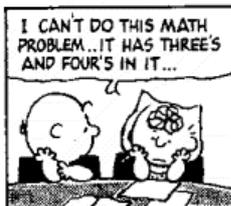
Frank and Ernest



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PEANUTS By Charles M. Schulz



THE FAR SIDE By Gary Larson



Math phobic's nightmare



## Gennaio 2000

52	1	S	(1803) Guglielmo LIBRI Carucci dalla Somaja (1878) Agner Krarup ERLANG (1894) Satyendranath BOSE (1912) Boris GNEDENKO	
		2	D	(1822) Rudolf Julius Emmanuel CLAUSIUS (1905) Lev Genrichovich SHNIRELMAN (1938) Anatoly SAMOILENKO
	1	3	L	(1917) Yuri Alexeievich MITROPOLSHY
			4	M
		5	M	(1838) Marie Ennemond Camille JORDAN (1871) Federigo ENRIQUES (1871) Gino FANO
			6	G
		7	V	(1871) Felix Edouard Justin Emile BOREL (1907) Raymond Edward Alan Christopher PALEY
		8	S	(1888) Richard COURANT (1924) Paul Moritz COHN (1942) Stephen William HAWKING
			9	D
2		10	L	(1875) Issai SCHUR (1905) Ruth MOUFANG
			11	M
	12	M	(1906) Kurt August HIRSCH	
	13	G	(1864) Wilhelm Karl Werner Otto Fritz Franz WIEN (1876) Luther Pfahler EISENHART (1876) Erhard SCHMIDT	
		14	V	(1902) Alfred TARSKI
	15	S	(1704) Johann CASTILLON (1717) Matthew STEWART (1850) Sofia Vasilievna KOVALEVSKAJA	
		16	D	(1801) Thomas KLAUSEN
	3	17	L	(1847) Nikolay Egorovich ZUKOWSKY (1858) Gabriel KOENIGS
18			M	(1856) Luigi BIANCHI (1880) Paul EHRENFEST
19		M	(1813) Rudolf Friedrich Alfred CLEBSCH (1879) Guido FUBINI (1908) Aleksandr Gennadievich KUROS	
		20	G	(1775) Andre` Marie AMPERE (1895) Gabor SZEGO
21		V	(1846) Pieter Hendrik SCHOUTE (1915) Yuri Vladimirovich LINNIK	
		22	S	(1592) Pierre GASSENDI (1908) Lev Davidovich LANDAU
23		D	(1840) Ernst ABBE (1862) David HILBERT	
4	24	L	(1891) Abram Samoilovitch BESICOVITCH (1914) Vladimir Petrovich POTAPOV	
		25	M	(1627) Robert BOYLE (1736) Joseph-Louis LAGRANGE (1843) Karl Herman Amandus SCHWARTZ
	26	M	(1799) Benoit Paul Emile CLAPEYRON	
	27	G	(1832) Charles Lutwidge DOGSON	
	28	V	(1701) Charles Marie de LA CONDAMINE (1892) Carlo Emilio BONFERRONI	
		29	S	(1817) William FERREL (1888) Sidney CHAPMAN
	30	D	(1619) Michelangelo RICCI	
	5	31	L	(1715) Giovanni Francesco FAGNANO dei Toschi (1841) Samuel LOYD (1896) Sofia Alexandrovna JANOWSKAJA

### Olimpiadi Matematiche

#### P1

Due matematici "A" e "B" si sono inventati una versione particolarmente complessa del "testa o croce": viene scritta alla lavagna una matrice quadrata con elementi interi casuali; il gioco consiste poi nel calcolare il determinante:

Se il determinante e` **pari**, vince "A".

Se il determinante e` **dispari**, vince "B".

La probabilita` che un numero sia pari e` 0,5, ma... Quali sono le probabilita` di vittoria di "A"?

#### P2

Dimostrare che qualsiasi numero primo (con l'eccezione di 2 e 5) ha un'infinita` di multipli nella forma  $11\dots 1$

*"Die Energie der Welt ist konstant. Die Entropie der Welt strebt einem Maximum zu"*

Rudolph CLAUSIUS

*"I know not what I appear to the world, but to myself I seem to have been only like a boy playing on the sea-shore, and diverting myself in now and then finding a smoother pebble or a prettier shell, whilst the great ocean of truth lay all undiscovered before me"*

Isaac NEWTON

*"The proof of the Hilbert Basis Theorem is not mathematics; it is theology."*

Camille JORDAN

*"It's very good jam," said the Queen.*

*"Well, I don't want any to-day, at any rate."*

*"You couldn't have it if you did want it," the Queen said. "The rule is jam tomorrow and jam yesterday but never jam to-day."*

*"It must come sometimes to "jam to-day,"" Alice objected.*

*"No it can't," said the Queen. "It's jam every other day; to-day isn't any other day, you know."*

*"I don't understand you," said Alice. "It's dreadfully confusing."*

Charles DOGSON

*"Mathematics is a game played according to certain simple rules with meaningless marks on paper."*

David HILBERT

*"A mathematician's reputation rests on the number of bad proofs he has given"*

Abram BESICOVITCH



## Febbraio 2000

5	1	M	(1900) John Charles BURKILL	
	2	M	(1522) Lodovico FERRARI	
	3	G	(1893) Gaston Maurice JULIA	
	4	V	(1905) Eric Cristopher ZEEMAN	
	5	S	(1757) Jean Marie Constant DUHAMEL	
	6	D	(1612) Antoine ARNAUD (1695) Nicolaus (II) BERNOULLI	
6	7	L	(1877) Godfried Harold HARDY (1883) Eric Temple BELL	
	8	M	(1700) Daniel BERNOULLI (1875) Francis Ysidro EDGEWORTH	
	9	M	(1775) Farkas Wolfgang BOLYAI (1907) Harold Scott MacDonald COXETER	
	10	G	(1747) Aida YASUAKI	
	11	V	(1800) William Henry Fox TALBOT (1839) Josiah Willard GIBBS (1915) Richard Wesley HAMMING	
	12	S	(1914) Hanna CAEMMERER NEUMANN	
	13	D	(1805) Johann Peter Gustav Lejeune DIRICHLET	
7	14	L	(1468) Johann WERNER (1849) Hermann HANKEL (1896) Edward Artur MILNE	
	15	M	(1564) Galileo GALILEI (1861) Alfred North WHITEHEAD	
	16	M	(1822) Francis GALTON (1853) Geogorio RICCI-CURBASTRO (1903) Beniamino SEGRE	
	17	G	(1890) Sir Ronald Aymler FISHER (1891) Adolf Abraham Halevi FRAENKEL	
	18	V	(1404) Leon Battista ALBERTI	
	19	S	(1473) Nicolaus COPERNICUS	
	20	D	(1844) Ludwig BOLTZMANN	
	8	21	L	(1591) Girard DESARGUES (1915) Evgenni Michailovitch LIFSHITZ
		22	M	(1903) Frank Plumpton RAMSEY
		23	M	(1583) Jean-Baptiste MORIN (1951) Shigefumi MORI
24		G	(1871) Felix BERNSTEIN	
25		V	(1827) Henry WATSON	
26		S	(1786) Dominique Francois Jean ARAGO	
27		D	(1881) Luitzen Egbertus Jan BROUWER	
9	28	L	(1735) Alexandre Theophile VANDERMONDE	
	29	M	(1860) Herman HOLLERITH	

### Olimpiadi Matematiche

#### P1:

Due matematici (A e B) giocano in questo modo:

- Viene scritto un numero sulla lavagna (casuale, di qualsiasi dimensione)
- "A" puo` effettuare, a scelta, una delle seguenti operazioni:

2.1. Dividere per 2 (se il numero e` divisibile per 2)

2.2. Dividere per 4 (se il numero e` divisibile per 4)

2.3. Moltiplicare per 3

Il risultato viene scritto sulla lavagna al posto del numero dato.

- "B" puo` effettuare, a scelta, una delle seguenti operazioni:

3.1. Sommare 1

3.2. Sottrarre 1

Il risultato viene scritto sulla lavagna al posto del numero dato.

- "A" e "B" si alternano nelle operazioni; scopo di "A" e` far comparire il valore "3"; scopo di "B" e` impedirglielo.

Esiste una strategia vincente per "A"?

*"Common sense is not really so common"*

Antoine ARNAUD

*"Archimedes will be remembered when Aeschylus is forgotten, because languages die and mathematical ideas do not. "Immortality" may be a silly word, but probably a mathematician has the best chance of whatever it may mean."*

Godfried HARDY

*"it would be better for the true physics if there were no mathematicians on earth"*

Daniel BERNOULLI

*"Epur si muove"*

Galileo GALILEI

*"Euler calculated without effort, just as men breathe, as eagles sustain themselves in the air"*

Dominique ARAGO



## Marzo 2000

9	1	M	(1611) John PELL
	2	G	(1836) Julius WEINGARTEN
	3	V	(1838) George William HILL (1845) Georg CANTOR
	4	S	(1822) Jules Antoine LISSAJUS
	5	D	(1512) Gerardus MERCATOR (1759) Benjamin GOMPERTZ (1817) Angelo GENOCCHI
10	6	L	(1866) Ettore BORTOLOTTI
	7	M	(1792) William HERSCHEL (1824) Delfino CODAZZI
	8	M	(1851) George CHRYSAL
	9	G	(1818) Ferdinand JOACHIMSTHAL (1900) Howard Hathaway AIKEN
	10	V	(1864) William Fogg OSGOOD
	11	S	(1811) Urbain Jean Joseph LE VERRIER (1853) Salvatore PINCHERLE
	12	D	(1685) George BERKELEY (1824) Gustav Robert KIRKHOFF (1859) Ernesto CESARO
11	13	L	(1861) Jules Joseph DRACH (1957) Rudy D'ALEMBERT
	14	M	(1864) Jozef KURSCHAK (1879) Albert EINSTEIN
	15	M	(1860) Walter Frank Raphael WELDON (1868) Grace CHISOLM YOUNG
	16	G	(1750) Caroline HERSCHEL (1789) Georg Simon OHM (1846) Magnus Gosta MITTAG-LEFFLER
	17	V	(1876) Ernest Benjamin ESCLANGON (1897) Charles FOX
	18	S	(1640) Philippe de LA HIRE (1690) Christian GOLDBACH (1796) Jacob STEINER
	19	D	(1862) Adolf KNESER (1910) Jacob WOLFOWITZ
12	20	L	(1840) Franz MERTENS (1884) Philip FRANCK (1938) Sergi Petrovich NOVIKOV
	21	M	(1768) Jean Baptiste Joseph FOURIER (1884) George David BIRKHOFF
	22	M	(1917) Irving KAPLANSKY
	23	G	(1754) Georg Freiherr von VEGA (1882) Emmy Amalie NOETHER (1897) John Lighton SYNGE
	24	V	(1809) Joseph LIOUVILLE (1948) Sun-Yung (Alice) CHANG
	25	S	(1538) Christopher CLAUSIUS
	26	D	(1848) Konstantin ADREEV (1913) Paul ERDOS
13	27	L	(1857) Karl PEARSON
	28	M	(1749) Pierre Simon de LAPLACE
	29	M	(1825) Francesco FAA' DI BRUNO (1873) Tullio LEVI-CIVITA (1896) Wilhelm ACKERMAN
	30	G	(1892) Stefan BANACH
	31	V	(1596) Rene' DESCARTES

### Olimpiadi Matematiche

#### P1:

Il piano è tassellato a scacchiera secondo quadrati unitari. Dimostrare che qualunque pentagono avente i vertici sugli incroci della griglia:

1. Ha area non minore di  $3/2$
2. Ha area non minore di  $5/2$ , se il pentagono è convesso.

#### P2:

Sono dati tre numeri  $a, b, c$  con  $a > 0$ ,  $b > 0$ ,  $c > 0$ ; dimostrare che, se  $a + b + c = abc$ , allora almeno uno dei numeri è maggiore di  $17/10$

#### P3:

Per ogni intero  $k$ , sia  $f(k)$  il numero degli elementi nell'insieme  $\{k+1, k+2, \dots, 2k\}$  la cui rappresentazione in base 2 contiene esattamente tre volte la cifra 1.

- Dimostrare che per ogni intero positivo  $m$  esiste almeno un elemento positivo  $k$  tale che  $f(k) = m$
- Determinare tutti gli interi positivi  $m$  per cui esiste un unico  $k$  con  $f(k) = m$ .

*"And what are these fluxions? The velocities of evanescent increments? They are neither finite quantities, nor quantities infinitely small, nor yet nothing. May we not call them ghosts of departed quantities?"*

George BERKELEY

*"Common sense is nothing more than a deposit of prejudices laid down in the mind before you reach eighteen."*

Albert EINSTEIN

*"We [he and Halmos] share a philosophy about linear algebra: we think basis-free, we write basis-free, but when the chips are down we close the office door and compute with matrices like fury."*

Irving KAPLANSKY

*"A Mathematician is a machine for turning coffee into theorems."*

Paul ERDOS

*"What we know is not much. What we do not know is immense."*

Pierre Simon de LAPLACE



## Aprile 2000

13	1	S	(1640) Georg MOHR (1776) Marie-Sophie GERMAIN (1895) Alexander Craig AITKEN	
	2	D	(1934) Paul Joseph COHEN	
14	3	L	(1835) John Howard Van AMRINGE (1892) Hans RADEMACHER (1900) Albert Edward INGHAM (1909) Stanislaw Marcin ULAM (1971) Alice RIDDLE	
	4	M	(1809) Benjamin PEIRCE (1842) Francois Edouard Anatole LUCAS (1949) Shing-Tung YAU	
	5	M	(1588) Thomas HOBBS (1607) Honore FABRI (1622) Vincenzo VIVIANI (1869) Sergi Alexeievich CHAPLYGIN	
	6	G	(1471) Albrecht DURER (1802) Niels Henrik ABEL	
	7	V	(1768) Francois Joseph FRANCAIS	
	8	S	(1903) Marshall Harvey STONE	
	9	D	(1791) George PEACOCK (1816) Charles Eugene DELAUNAY (1919) John Presper HECKERT	
	15	10	L	(1857) Henry Ernest DUDENEY
		11	M	(1953) Andrew John WILES
12		M	(1794) Germinal Pierre DANDELIN (1852) Carl Louis Ferdinand Von LINDEMANN (1903) Jan TINBERGEN	
13		G	(1728) Paolo FRISI (1813) Duncan Farquharson GREGORY (1879) Francesco SEVERI	
14		V	(1629) Christiaan HUYGENS	
15		S	(1452) Leonardo da VINCI (1548) Pietro Antonio CATALDI (1707) Leonhard EULER (1809) Herman Gunther GRASSMANN	
16	16	D	(1682) John HADLEY (1823) Ferdinand Gotthold Max EISENSTEIN	
	17	L	(1798) Etienne BOBILLIER (1853) Arthur Moritz SCHONFLIES	
	18	M	(1907) Lars Valerian AHLFORS (1918) Hsien Chung WANG (1949) Charles LUIS FEFFERMAN	
	19	M	(1880) Evgeny Evgenievich SLUTSKY (1883) Richard VIN MISES (1901) Kiyoshi OKA (1905) Charles EHRESMANN	
	20	G	(1839) Francesco SIACCI	
	21	V	(1652) Michel ROLLE (1774) Jean Baptiste BIOT (1875) Teiji TAKAGI	
	22	S	(1811) Otto Ludwig HESSE (1887) Harald August BOHR	
	23	D	(1858) Max Karl Ernst Ludwig PLANCK	
	17	24	L	(1863) Giovanni VAILATI
		25	M	(1849) Felix Christian KLEIN (1900) Wolfgang PAULI (1903) Andrei Nicolayevich KOLMOGOROV
26		M	(1889) Ludwig Josef Johan WITTENGSTEIN	
27		G	(1755) Marc-Antoine PARSEVAL des Chenes	
28		V	(1906) Kurt GODEL	
29		S	(1854) Jules Henri POINCARÉ	
30		D	(1777) Johann Carl Friedrich GAUSS (1916) Claude Elwood SHANNON	

### Olimpiadi Matematiche

#### P1:

Risolvere l'equazione

$$1! + 2! + 3! + 4! + \dots + n! = m^3$$

sapendo che vi compaiono solo valori interi.

#### P2:

La funzione  $n?$  e' definita come:

$$n? = \begin{cases} 1 & n = 1 \\ n & n \geq 2 \\ (n-1)? & \end{cases}$$

Trovare gli  $n$  per cui e'  $\sqrt{n} < n? < \frac{4}{3}\sqrt{n}$

"The notion of a set is too vague for the continuum hypothesis to have a positive or negative answer."

Paul Joseph COHEN

"Knowing what is big and what is small is more important than being able to solve partial differential equations"

Stanislaw Marcin ULAM

"You treat world history as a mathematician does mathematics, in which nothing but laws and formulae exist, no reality, no good and evil, no time, no yesterday, no tomorrow, nothing but an eternal shallow, mathematical present."

Otto Ludwig HESSE

"An important scientific innovation rarely makes its way by gradually winning over and converting its opponents: it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out, and that the growing generation is familiarised with the ideas from the beginning"

Max Karl Ernst Ludwig PLANCK

"Everyone knows what a curve is, until he has studied enough mathematics to become confused through the countless number of possible exceptions."

Felix KLEIN

"The fact that the author thinks slowly is not serious, but the fact that he publishes faster than he thinks is inexcusable."

Wolfgang PAULI



## Maggio 2000

18	1	L	(1825) Johann Jacob BALMER
	2	M	(1860) D'Arcy Wentworth THOMPSON (1905) Kazimierz ZARANKIEWITZ
	3	M	(1842) Otto STOLZ (1860) Vito VOLTERRA
	4	G	(1845) William Kingdon CLIFFORD
	5	V	(1833) Lazarus Emmanuel FUCHS (1897) Francesco Giacomo TRICOMI
	6	S	(1872) Willem DE SITTER (1906) Andre` VELL
	7	D	(1713) Alexis Claude CLAIRAUT (1854) Giuseppe VERONESE (1881) Ebenezer CUNNINGHAM (1896) Pavel Sergieievich ALEXANDROV
19	8	L	(1859) Johan Ludwig William Valdemar JENSEN
	9	M	(1746) Gaspard MONGE (1876) Gilbert Ames BLISS
	10	M	(1788) Augustin Jean FRESNEL (1847) William Karl Joseph KILLING (1958) Piotr Rizierovich SILVERBRAHMS
	11	G	(1918) Richard Phillips FEYNMAN
	12	V	(1845) Pierre Rene` Jean Baptiste Henry BROCARD (1902) Frank YATES
	13	S	(1750) Lorenzo MASCHERONI
	14	D	(1832) Rudolf Otto Sigismund LIPSCHITZ (1863) John Charles FIELDS
20	15	L	(1939) Brian HARTLEY
	16	M	(1718) Maria Gaetana AGNESI (1821) Pafnuti Lvovi CHEBYSHEV
	17	M	
	18	G	(1850) Oliver HEAVISIDE (1892) Bertrand Arthur William RUSSELL
	19	V	(1919) Georgii Dimitirievich SUVOROV
	20	S	(1861) Henry Seely WHITE
	21	D	(1471) Albrecht DURER (1792) Gustave Gaspard de CORIOLIS
21	22	L	(1865) Alfred Cardew DIXON
	23	M	(1914) Lipa BERS
	24	M	
	25	G	(18238) Karl Mikailovich PETERSON
	26	V	(1667) Abraham DE MOIVRE (1896) Yuri Dimitrievich SOKOLOV
	27	S	(1862) John Edward CAMPBELL
	28	D	(1676) Jacopo Francesco RICCATI (1710) Johann (II) BERNOULLI
22	29	L	(1882) Harry BATEMAN
	30	M	(1814) Eugene Charles CATALAN
	31	M	(1926) John KEMENY

### Olimpiadi Matematiche

#### P1:

Per quali numeri naturali  $x, y \geq 1$  l'espressione

$$2^x - 3^y = 7 \text{ e' valida?}$$

#### P2:

Su un numero sono possibili le due seguenti operazioni:

1. Moltiplicarlo per un qualsiasi naturale
2. Cancellare gli zeri dalla sua rappresentazione decimale

Dimostrare che, dato qualsiasi  $n$  di partenza, e' sempre possibile generare una sequenza delle due operazioni date che riduce  $n$  ad un numero di una cifra

*"Nature is not embarrassed by difficulties of analysis."*

Augustin Jean FRESNEL

*"Now one may ask, "What is mathematics doing in a physics lecture?" We have several possible excuses: first, of course, mathematics is an important tool, but that would only excuse us for giving the formula in two minutes. On the other hand, in theoretical physics we discover that all our laws can be written in mathematical form; and that this has a certain simplicity and beauty about it. But the real reason is that the subject is enjoyable, and although we humans cut nature up in different ways, and we have different courses in different departments, such compartmentalization is really artificial, and we should take our intellectual pleasures where we find them."*

Richard Phillips FEYNMAN

*"To isolate mathematics from the practical demands of the sciences is to invite the sterility of a cow shut away from the bulls. "*

Pafnuti Lvovi CHEBYSHEV

*"Mathematics is veri much like poetry. What makes a great poem is tat there is a great amount of thought expressed in very few words. in this sense, formulas like  $e^{\pi}+1=0$  are poems."*

Lipa BERS



## Giugno 2000

22	1	G	(1796) Sadi Leonard Nicolas CARNOT (1851) Edward Bailey ELLIOTT (1899) Edward Charles TICHMARSH
	2	V	(1895) Tibor RADO`
	3	S	(1659) David GREGORY
	4	D	(1809) John Henry PRATT
23	5	L	(1814) Pierre LAurent WANTZEL (1819) John Couch ADAMS
	6	M	(1436) Johann Muller REGIOMONTANUS (1857) Aleksandr Michailovitch LYAPUNOV (1906) Max ZORN
	7	M	(1863) Edward Burr VAN VLECK
	8	G	(1625) Giovanni Domenico CASSINI (1858) Charlotte Angas SCOTT (1860) Alicia Boole STOTT
	9	V	(1885) John Edensor LITTLEWOOD
	10	S	(940) Mohammad ABU'L Wafa Al-Buzjani (1887) Vladimir Ivanovich SMIRNOV
	11	D	(1937) David Bryant MUMFORD
24	12	L	(1888) Zygmunt JANYSZEWSKI
	13	M	(1831) James Clerk MAXWELL (1876) William Sealey GOSSET (Student) (1928) John Forbes NASH
	14	M	(1736) Charles Augustin de COULOMB (1856) Andrei Andreyevich MARKOV (1903) Alonzo CHURCH
	15	G	(1640) Bernard LAMY (1894) Nikolai Gregorievich CHEBOTARYOV
	16	V	(1915) John Wilder TUKEY
	17	S	(1898) Maurits Cornelius ESCHER
	18	D	(1858) Andrew Russell FORSYTH (1884) Charles Ernest WEATHERBURN
	25	19	L
20		M	(1873) Alfred LOEWY
21		M	(1781) Simeon Denis POISSON (1828) Giuseppe BRUNO
22		G	(1860) Mario PIERI (1864) Hermann MINKOWSKY (1910) Konrad ZUSE
23		V	(1912) Alan Mathison TURING
24		S	(1880) Oswald VEBLEN
25		D	(1908) William Van Orman QUINE
26	26	L	(1824) Williamo THOMPSON, Lord Kelvin (1918) Yudell Leo LUKE
	27	M	(1806) Augustus DE MORGAN
	28	M	(1875) Henri Leon LEBESGUE
	29	G	(1888) Aleksandr Aleksandrovich FRIEDMANN
	30	V	(1791) Felix SAVART

### Olimpiadi Matematiche

#### P1:

Definiamo  $(n,m)$ -gruppo un gruppo composto da  $n$  ragazzi e  $m$  ragazze.

Esistono dei numeri  $n_0, m_0$  tali che ogni  $(n_0, m_0)$ -gruppo contenga un sottogruppo di 5 ragazzi e 5 ragazze tali che o tutti i ragazzi conoscono tutte le ragazze o nessun ragazzo conosce nessuna ragazza?

#### P2:

$a, b, c$  sono dei reali positivi. Dimostrare che:

$$\frac{1}{a^3(b+c)} + \frac{1}{b^3(a+c)} + \frac{1}{c^3(a+b)} \geq \frac{2}{3}$$

se  $abc=1$

#### P3:

In quanti modi si puo` scrivere 111 come somma di tre termini di una serie geometrica?

*"It can be of no practical use to know that  $p$  is irrational, but if we can know, it surely would be intolerable not to know."*

Edward Charles TICHMARSH

*"What I give form to in daylight is only one per cent of what I have seen in darkness"*

Maurits Cornelius ESCHER

*"The more I see of men, the better I like my dog"*

Blaise PASCAL

*"Science is a differential equation. Religion is a boundary condition"*

Alan Mathison TURING

*"In my opinion, a mathematician, in so far as he is a mathematician, need not preoccupy himself with philosophy -- an opinion, moreover, which has been expressed by many philosophers."*

Henri LEBESGUE



## Luglio 2000

26	1	S	(1643) Gottfried Wilhelm von LEIBNITZ (1788) Jean Victor PONCELET
	2	D	(1820) William John Racquorn RANKINE (1852) William BURNSIDE
27	3	L	(1807) Ernest Jean Philippe Fauque de JONQUIERE (1897) Jesse DOUGLAS
	4	M	(1906) Daniel Edwin RUTHERFORD (1917) Michail Samuilovich LIVSIC
	5	M	
	6	G	(1849) Alfred Bray KEMPE
	7	V	(1816) Johann Rudolf WOLF (1906) William FELLER (1922) Vladimir Aleksandrovich MARCHENKO
	8	S	(1760) Christian KRAMP
	9	D	(1845) George Howard DARWIN
	28	10	L
11		M	(1857) Sir Joseph LARMOR (1890) Giacomo ALBANESE
12		M	(1875) Ernest Sigismund FISCHER (1895) Richard Buckminster FULLER
13		G	(1527) John DEE (1741) Karl Friedrich HINDENBURG
14		V	
15		S	(1865) Wilhelm WIRTINGER (1906) Adolph Andrej Pavlovich YUSHKEVICH
16		D	(1678) Jakob HERMANN (1903) Irmgard FLUGGE-LOTZ
29		17	L
	18	M	(1013) Hermann von REICHENAU (1635) Robert HOOKE (1853) Hendrich Antoon LORENTZ
	19	M	(1768) Francois Joseph SERVOIS
	20	G	
	21	V	(1620) Jean PICARD (1848) Emil WEYR (1849) Robert Simpson WOODWARD
	22	S	(1784) Friedrich Wilhelm BESSEL
	23	D	(1775) Etienne Louis MALUS (1854) Ivan SLEZYNSKY
	30	24	L
25		M	(1808) Johann Benedict LISTING
26		M	(1903) Kurt MAHLER
27		G	(1667) Johann BERNOULLI (1801) George Biddel AIRY (1848) Lorand Baron von EOTVOS (1871) Ernst Friedrich Ferdinand ZERMELO
28		V	(1954) Gerd FALTINGS
29		S	
30		D	
31		31	L

### Olimpiadi Matematiche

#### P1:

Si abbiano i due insiemi  $\{a_1, a_2, \dots, a_n\}$  e  $\{b_1, b_2, \dots, b_n\}$  in cui tutti gli  $a_1, \dots, a_n$  sono distinti. Supponiamo esista un numero reale  $A$  tale che

$$(a_i + b_1)(a_i + b_2) \dots (a_i + b_n)$$

abbia il valore  $A$  per qualsiasi  $i=(1, \dots, n)$ .

Dimostrare che allora esiste un numero reale  $B$  tale che

$$(a_1 + b_j)(a_2 + b_j) \dots (a_n + b_j)$$

ha valore  $B$  per qualsiasi  $j=(1, \dots, n)$

*"When working on a problem, I never think about beauty; I think only of how to solve the problem. But when I have finished, if the solution is not beautiful, I know that it is wrong."*

Richard Buckminster FULLER

*"There is (gentle reader) nothing (the works of God only set apart) which so much beautifies and adorns the soul and mind of man as does knowledge of the good arts and sciences. ... Many ... arts there are which beautify the mind of man; but of all none do more garnish and beautify it than those arts which are called mathematical, unto the knowledge of which no man can attain, without perfect knowledge and instruction of the principles, grounds, and Elements of Geometry."*

John DEE

*"CEIIOSSOTTUU"*

Anagram to establish priority in the discovery of elasticity: *"Ut tensio, sic uis"*

Robert HOOKE

*"[The infinitesimals] neither have nor can have theory; in practise it is a dangerous instrument in the hands of beginners ... anticipating, for my part, the judgement of posterity, I would predict that this method will be accused one day, and rightly, of having retarded the progress of the mathematical sciences."*

Francois Joseph SERVOIS

*"A quantity which is increased or decreased by an infinitely small quantity is neither increased nor decreased."*

Johann BERNOULLI



## Agosto 2000

31	1	M	(1861) Ivar Otto BENDIXSON (1881) Otto TOEPLITZ	
	2	M	(1856) Ferdinand RUDIO (1902) Mina Spiegel REES	
	3	G	(1914) Mark KAC	
	4	V	(1805) Sir William Rowan HAMILTON (1838) John VENN	
	5	S	(1802) Niels Henrik ABEL	
	6	D	(1638) Nicolas MALEBRANCHE (1741) John WILSON	
32	7	L	(1868) Ladislaus Josephowitsch BORTKIEWITZ	
	8	M	(1902) Paul Adrien Maurice DIRAC	
	9	M	(1537) Francesco BAROZZI (Franciscus Barocius)	
	10	G	(1602) Gilles Personne de ROBERVAL	
	11	V	(1730) Charles BOSSUT (1842) Enrico D'OVIDIO	
	12	S	(1882) Jules Antoine RICHARD (1887) Erwin Rudolf Josef Alexander SCHRODINGER	
	13	D	(1625) Erasmus BARTHOLIN (1819) George Gabriel STOKES (1861) Cesare BURALI-FORTI	
33	14	L	(1530) Giovanni Battista BENEDETTI (1842) Jean Gaston DARBOUX (1865) Guido CASTELNUOVO (1866) Charles Gustave Nicolas de la VALLEE' POUSSIN	
	15	M	(1863) Aleksei Nikolaevich KRYLOV (1892) Louis Pierre Victor duc de BROGLIE (1901) Petr Sergeevich NOVIKOV	
	16	M	(12773) Louis Beniamin FRANCOEUR (1821) Arthur CAYLEY	
	17	G	(1601) Pierre de FERMAT	
	18	V	(1685) Brook TAYLOR	
	19	S	(1646) John FLAMSTEED (1739) Georg Simon KLUGEL	
	20	D	(1710) Thomas SIMPSON (1863) Corrado SEGRE (1882) Wacław SIERPINSKI	
	34	21	L	(1789) Augustin Louis CAUCHY
		22	M	(1647) Denis PAPI
		23	M	(1683) Giovanni POLENI (1829) Moritz Benedikt CANTOR
24		G	(1561) Bartholomeo PITISCUS (1942) Karen Keskulla UHLENBECK	
25		V	(1561) Philip van LANSBERGE (1844) Thomas MUIR	
26		S	(1728) Johann Heinrich LAMBERT (1875) Giuseppe VITALI	
27		D	(1858) Giuseppe PEANO	
35		28	L	(1796) Ireneé Jules BIENAYME
	29	M	(1904) Leonard ROTH	
	30	M	(1856) Carle David Tolme` RUNGE (1906) Olga TAUSSKY-TODD	
	31	G	(1821) Hermann Ludwig Ferdinand von HELMHOLTZ	

### Olimpiadi Matematiche

**P1:**

Sia  $p_n(k)$  il numero delle permutazioni di  $n$  elementi con esattamente  $k$  punti fissi. Ad esempio,  $p_3(0)=2$ ,  $p_3(1)=3$ ,  $p_3(2)=0$  e  $p_3(3)=1$ . E' abbastanza evidente che

$$\sum_{k=0}^n p_n(k) = n!$$

Ma e' molto meno chiaro a cosa sia uguale:

$$\sum_{k=0}^n k p_n(k) \text{ e quanto valga } \sum_{k=0}^n k^2 p_n(k).$$

(nella seconda, assumere  $n \geq 2$ ).

*"The whole form of mathematical thinking was created by Euler. It is only with the greatest of difficulty that one is able to follow the writings of any author preceding Euler, because it was not yet known how to let the formulas speak for themselves. This art Euler was the first to teach."*

Ferdinand RUDIO

*"There are surely worse things than being wrong, and being dull and pedantic are surely among them."*

Mark KAC

*"This result is too beautiful to be false; it is more important to have beauty in one's equations than to have them fit experiment."*

Paul Adrien Maurice DIRAC

*"And perhaps, posterity will thank me for having shown it that the ancients did not know everything."*

Pierre de FERMAT

*"Cubum autem in duos cubos, aut quadratoquadratum in duos quadratoquadratos, et generaliter nullam in infinitum ultra quadratum potestatem in duos ejusdem nominis fas est dividere: cujus rei demonstrationem mirabilem sane detexi. Hanc marginis exiguitas non caperet"*

Pierre de FERMAT

*"Newton is, of course, the greatest of all Cambridge professors; he also happens to be the greatest disaster that ever befell not merely Cambridge mathematics in particular, but British mathematical science as a whole"*

Leonard ROTH



## Settembre 2000

35	1	V	(1659) Joseph SAURIN (1835) William Stankey JEVONS	
	2	S	(1878) Maurice Rene' FRECHET (1923) Rene' THOM	
	3	D	(1814) James Joseph SYLVESTER (1884) Solomon LEFSCHETZ (1908) Lev Semenovich PONTRYAGIN	
36	4	L	(1809) Luigi Federico MENABREA	
	5	M	(1667) Giovanni Girolamo SACCHERI (1725) Jean Etienne MONTUCLA	
	6	M	(1859) Boris Jakovlevich BUKREEV (1863) Dimitri Aleksandrovich GRAVE	
	7	G	(1707) George Louis Leclerc comte de BUFFON (1955) Efim ZELMANOV	
	8	V	(1584) Gregorius SAINT-VINCENT (1588) Marin MERSENNE	
	9	S	(1860) Frank MORLEY	
	10	D	(1839) Charles Sanders PEIRCE	
	37	11	L	(1623) Stefano degli ANGELI (1877) sir James Hopwood JEANS
		12	M	(1891) Antoine Andre' Louis REYNAUD (1900) Haskell Brooks CURRY
		13	M	(1873) Constantin CARATHEODORY (1885) Wilhelm Johann Eugen BLASCHKE
14		G	(1858) Henry Burchard FINE (1891) Ivan Matveevich VINOGRADOV	
15		V	(973) Abu Arrayhan Muhammad ibn Ahmad AL'BIRUNI (1886) Paul Pierre LEVY	
16		S	(1494) Francisco MAUROLICO (1736) Johann Nikolaus TETENS	
17		D	(1743) Marie Jean Antoine Nicolas de Caritat de CONDORCET (1826) Georg Friedrich Bernhard RIEMANN	
38		18	L	(1752) Adrien Marie LEGENDRE
	19	M	(1749) Jean Baptiste DELAMBRE	
	20	M	(1842) Alexander Wilhelm von BRILL (1861) Frank Nelson COLE	
	21	G	(1899) Juliusz Pawel SCHAUDER	
	22	V	(1765) Paolo RUFFINI (1769) Louis PUISSANT (1803) Jaques Charles Francois STURM	
	23	S	(1768) William WALLACE (1900) David van DANTZIG	
	24	D	(1501) Girolamo CARDANO (1625) Johan DE WITT (1801) Michail Vasilevich OSTROGRADSKI	
	39	25	L	(1819) George SALMON (1888) Stefan MAZURKIEWICZ
26		M	(1688) Willem Jakob 'sGRAVESANDE (1854) Percy Alexander MACMAHON (1891) Hans REICHENBACH	
27		M	(1855) Paul Emile APPEL (1876) Earle Raymond HEDRICK (1919) James Hardy WILKINSON	
28		G	(1698) Pierre Louis Moreau de MAUPERTUIS (1761) Ferdinand Francois Desire' Budan de BOISLAURENT (1873) Julian Lowell COOLIDGE	
29		V	(1561) Adriaan van ROOMEN (1812) Adolph GOPEL	
30		S	(1775) Robert ADRAIN (1829) Joseph WOLSTENHOLME (1883) Ernst HELLINGER	

### Olimpiadi Matematiche

**P1:**

Sia  $b_n$  la piu' alta potenza di 3 che divide  $\left(\frac{3^k}{n}\right)$

(con  $0 \leq n \leq 3^k$ ). Calcolare  $\sum_{n=0}^{3^k} \frac{1}{b_n}$ .

**P2:**

I numeri (reali)  $x_1, \dots, x_n$  sono tali che  $\sum_{i=1}^n x_i = 0$  e  $\sum_{i=1}^n x_i^2 = 1$ . Dimostrare che tra questi ne esistono due tali che il loro prodotto e' minore o uguale a  $\frac{1}{n}$ .

*"The importance of the "New Mathematics" lies mainly in the fact that it has taught us the difference between the disc and the circle."*

Rene' THOM

*"If it's just turning the crank it's algebra, but if it's got an idea in it, it's topology."*

Solomon LEFSCHETZ

*"This branch of mathematics [Probability] is the only one, I believe, in which good writers frequently get results which are entirely erroneous."*

Charles Sanders PEIRCE

*"We may as well cut out the group theory. That is a subject that will never be of any use in physics."*

sir James Hopwood JEANS

*"If error is corrected whenever it is recognised, the path of error is the path of truth."*

Hans REICHENBACH

[Upon proving that the best betting strategy for "Gambler's Ruin" was to bet all on the first trial.] *"It is true that a man who does this is a fool. I have only proved that a man who does anything else is an even bigger fool."*

Julian Lowell COOLIDGE



39	1	D	(1671) Luigi Guido GRANDI (1898) Bela KEREKJARTO'	
40	2	L	(1825) John James WALKER (1908) Arthur ERDELYI	
	3	M	(1944) Pierre Rene' DELIGNE	
	4	M	(1759) Louis Francois Antoine ARBOGAST (1797) Jerome SAVARY	
	5	G	(1732) Nevil MASKELYNE (1781) Bernhard Placidus Johann Nepomuk BOLZANO (1861) Thomas Little HEATH	
	6	V	(1552) Matteo RICCI (1831) Julius Wilhelm Richard DEDEKIND (1908) Sergei Lvovich SOBOLEV	
	7	S	(1885) Niels BOHR	
	8	D	(1908) Hans Arnold HEILBRONN	
	41	9	L	(1581) Claude Gaspard BACHET de Meziriac (1704) Johann Andrea von SEGNER (1873) Karl SCHWARTZSCHILD
10		M	(1861) Heinrich Friedrich Karl Ludwig BURKHARDT	
11		M	(1675) Samuel CLARKE (1777) Barnabe' BRISSON (1885) Alfred HAAR (1910) Cahit ARF	
12		G	(1492) Piero DELLA FRANCESCA	
13		V	(1890) Georg FEIGL (1893) Kurt Werner Friedrich REIDEMEISTER (1932) John Griggs THOMPSON	
14		S	(1687) Robert SIMSON (1801) Joseph Antoine Ferdinand PLATEAU (1868) Alessandro PADOA	
15		D	(1608) Evangelista TORRICELLI (1735) Jesse RAMSDEN (1776) Peter BARLOW	
42		16	L	(1879) Philip Edward Bertrand JOURDAIN
		17	M	(1759) Jacob (II) BERNOULLI (1888) Paul Isaac BERNAYS
		18	M	(1741) John WILSON
		19	G	(1903) Jean Frederic Auguste DELSARTE (1910) Subrahmanyan CHANDRASEKHAR
		20	V	(1632) Sir Christopher WREN (1863) William Henry YOUNG (1865) Aleksandr Petrovich KOTELNIKOV
		21	S	(16877) Nicolaus (I) BERNOULLI (1823) Enrico BETTI (1855) Giovan Battista GUCCIA (1893) William LEonard FERRAR
		22	D	(1587) Joachim JUNGIUS (1895) Rolf Herman NEVANLINNA (1907) Sarvadaman CHOWLA
		43	23	L
	24		M	(1804) Wilhelm Eduard WEBER (1873) Edmund Taylor WITTAKER
	25		M	(1811) Evariste GALOIS
	26		G	(1849) Ferdinand Georg FROBENIUS (1857) Charles Max MASON (1911) Shiing-Shen CHERN
27	V		(1678) Pierre Remond de MONTMORT (1856) Ernest William HOBSON	
28	S		(1804) Pierre Francois VERHULST	
29	D		(1925) Klaus ROTH	
44	30		L	(1906) Andrej Nikolaevich TIKHONOV
	31		M	(1815) Karl Theodor Wilhelm WEIERSTRASS

### Olimpiadi Matematiche

#### P1:

Il triangolo pitagorico (rettangolo a lati interi) con cateti 2534 e 40004 ha ipotenusa 40085; la sua area e' 50945094, ossia e' un numero nella forma (in base 10)  $abcd\ abcd$ . Trovare (se esiste) un altro triangolo pitagorico la cui area sia un numero esprimibile nella stessa forma.

#### P2:

A una festa ci sono 201 persone di cinque diverse nazionalita`. In ogni gruppo di sei, almeno due persone hanno la stessa eta`. Mostrare che almeno cinque persone vengono dallo stesso paese, hanno la stessa eta` e sono dello stesso sesso.

#### P3:

Mostrare che, nel triangolo:

1	2	3	...	1999	2000
	3	5	...		3999
		8	12	...	5997

In cui ogni elemento e' dato dalla somma dei due elementi superiori, l'ultimo numero nell'ultima riga e' un multiplo di 2000.

*"An expert is a man who has made all the mistakes which can be made in a very narrow field"*

Niels BOHR

*" $2^{30}(2^{31}-1)$  is the greatest perfect number that will ever be discovered, for, as they are merely curious without being useful, it is not likely that any person will attempt to find a number beyond it"*

Peter BARLOW

*"The Council of the Royal Society is a collection of men who elect each other to office and then dine together at the expense of this society to praise each other over wine and give each other medals."*

Charles BABBAGE

*"Unfortunately what is little recognized is that the most worthwhile scientific books are those in which the author clearly indicates what he does not know; for an author most hurts his readers by concealing difficulties."*

Evariste GALOIS

*"It is true that a mathematician who is not also something of a poet will never be a perfect mathematician."*

Karl Theodor Wilhelm WEIERSTRASS

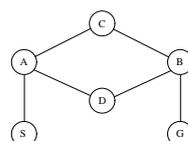
## Novembre 2000

45	1	M	(1535) Giambattista DELLA PORTA	
	2	G	(1815) George BOOLE	
	3	V	(1867) Martin Wilhelm KUTTA (1878) Arthur Byron COBLE	
	4	S	(1744) Johann (III) BERNOULLI (1865) Pierre Simon GIRARD	
	5	D	(1848) James Whitbread Lee GLAISHER (1930) John Frank ADAMS	
46	6	L	(1781) Giovanni Antonio Amedeo PLANA	
	7	M	(1660) Thomas Fantet DE LAGNY (1799) Karl Heinrich GRAFFE (1898) Raphael SALEM	
	8	M	(1656) Edmond HALLEY (1846) Eugenio BERTINI (1848) Fredrich Ludwig Gottlob FREGE (1854) Johannes Robert RYDBERG (1869) Felix HAUSDORFF	
	9	G	(1847) Carlo Alberto CASTIGLIANO (1885) Theodor Franz Eduard KALUZA (1885) Hermann Klaus Hugo WEYL (1906) Jaroslav Borisovich LOPATYNSKY (1922) Imre LAKATOS	
	10	V	(1829) Helwin Bruno CHRISTOFFEL	
	11	S	(1904) John Henry Constantine WHITEHEAD	
	12	D	(1825) Michail Egorovich VASHCHENKO-ZAKHARCHENKO (1842) John William STRUTT Lord RAYLEIGH (1927) Yutaka TANIYAMA	
	47	13	L	(1876) Ernest Julius WILKZYNSKY (1878) Max Wilhelm DEHN
		14	M	(1845) Ulisse DINI
		15	M	(1688) Louis Bertrand CASTEL (1793) Michel CHASLES (1794) Franz Adolph TAURINUS
		16	G	(1835) Eugenio BELTRAMI
		17	V	(1597) Henry GELLIBRAND (1717) Jean Le Rond D'ALEMBERT (1790) August Ferdinand MOBIUS
18		S	(1872) Giovanni Enrico Eugenio VACCA (1927) Jon Leslie BRITTON	
19		D	(1894) Heinz HOPF (1900) Michail Alekseevich LAVRENTEV (1901) Nina Karlovna BARI	
48		20	L	(1889) Edwin Powell HUBBLE (1924) Benoit MANDELBROT
		21	M	(1867) Dimitri SINTSOV
	22	M	(1803) Giusto BELLAVITIS (1840) Emile Michel Hyacinte LEMOINE	
	23	G	(1616) John WALLIS (1820) Issac TODHUNTER	
	24	V	(1879) Duncan MacLaren Young SOMERVILLE (1909) Gerhard GENTZEN	
	25	S	(1873) Claude Louis MATHIEU (1841) Fredrich Wilhelm Karl Ernst SCHRODER	
	26	D	(1894) Norbert WIENER (1946) Enrico BOMBIERI	
	49	27	L	(1867) Arthur Lee DIXON
28		M	(1898) John WISHART	
29		M	(1803) Christian Andreas DOPPLER (1849) Horace LAMB (1879) Nikolay Mitrofanovich KRYLOV	
30		G	(1549) Sir Henry SAVILE	

### Olimpiadi Matematiche

#### P1:

Un videogioco ha sullo schermo il disegno qui sotto:



All'inizio, la pallina è su "S". Ad ogni impulso da parte del giocatore, la pallina si sposta in una delle posizioni vicine, con probabilità uguale per ogni mossa.

Il gioco finisce quando:

1. La pallina torna in "S", e il giocatore perde.
2. La pallina raggiunge "G", e il giocatore vince.

Calcolare:

1. La probabilità per un giocatore di vincere
2. Il numero medio di mosse per ogni partita.

*"Of the many forms of false culture, a premature converse with abstractions is perhaps the most likely to prove fatal to the growth of a masculine vigour of intellect."*

George BOOLE

*"A scientist can hardly meet with anything more undesirable than to have the foundations give way just as the work is finished. I was put in this position by a letter from Mr. Bertrand Russell when the work was nearly through the press."*

Fredrich Ludwig Gottlob FREGE

*" Logic is the hygiene the mathematician practices to keep his ideas healthy and strong."*

Hermann Klaus Hugo WEYL

*" The British Mathematical Colloquium consists of three days of mathematics with no dogs and no wives"*

John Henry Constantine WHITEHEAD

*" The modern physicist is a quantum theorist on Monday, Wednesday, and Friday and a student of gravitational relativity theory on Tuesday, Thursday, and Saturday. On Sunday he is neither, but is praying to his God that someone, preferably himself, will find the reconciliation between the two views. "*

Benoit MANDELBROT



## Dicembre 2000

49	1	V	(1792) Nikolay Yvanovich LOBACHEVSKY	
	2	S	(1831) Paul David Gustav DU BOIS-RAYMOND (1901) George Frederick James TEMPLE	
	3	D	(1903) Sidney GOLDSTEIN (1924) John BACKUS	
50	4	L	(1795) Thomas CARLYLE	
	5	M	(1868) Arnold Johannes Wilhelm SOMMERFELD (1901) Werner Karl HEISENBERG	
	6	M	(1682) Giulio Carlo FAGNANO dei Toschi	
	7	G	(1647) Giovanni CEVA (1823) Leopold KRONECKER (1830) Antonio Luigi Gaudenzio Giuseppe CREMONA	
	8	V	(1508) Regnier GEMMA FRISIUS (1865) Jaques Salomon HADAMARD (1919) Julia Bowman ROBINSON	
	9	S	(1883) Nikolai Nikolaievich LUZIN (1906) Grace Brewster MURRAY HOPPER (1917) Sergei Vasilovich FOMIN	
	10	D	(1804) Karl Gustav Jacob JACOBI (1815) Augusta Ada KING Countess of LOVELACE	
	51	11	L	(1882) Max BORN
		12	M	(1832) Peter Ludwig Mejdell SYLOW
		13	M	(1724) Franz Ulrich Theodosius AEPINUS (1887) George POLYA
14		G	(1546) Tycho BRAHE	
15		V	(1802) Janos BOLYAI	
16		S	(1804) Wiktor Yakovievich BUNYAKOWSKY	
17		D	(1706) Gabrielle Emile Le Tonnelier de Breteuil du CHATELET (1835) Felice CASORATI (1842) Marius Sophus LIE (1900) Dame Mary Lucy CARTWRIGHT	
52	18	L	(1917) Roger LYNDON	
	19	M	(1783) Charles Julien BRIANCHON (1854) Marcel Louis BRILLOUIN	
	20	M	(1494) Oronce FINE (1648) Tommaso CEVA (1875) Francesco Paolo CANTELLI	
	21	G	(1878) Jan LUKASIEVIKZ (1932) John Robert RINGROSE	
	22	V	(1824) Francesco BRIOSCHI (1859) Otto Ludwig HOLDER (1877) Tommaso BOGGIO (1887) Srinivasa Aiyangar RAMANUJAN	
	23	S	(1872) Georgii Yurii PFEIFFER	
	24	D	(1822) Charles HERMITE (1868) Emmanuel LASKER	
53	25	L	(1642) Isaac NEWTON (1900) Antoni ZYGMUND	
	26	M	(1780) Mary Fairfax Greig SOMERVILLE (1791) Charles BABBAGE	
	27	M	(1571) Johannes KEPLER (1654) Jacob (Jacques) BERNOULLI	
	28	G	(1808) Athanase Louis Victoire DUPRE (1882) Arthur Stanley EDDINGTON (1903) John von NEUMANN	
	29	V	(1856) Thomas Jan STIELTJES	
	30	S	(1897) Stanislaw SAKS	
	31	D	(1872) Volodymyr LEVIYTSKY (1896) Carl Ludwig SIEGEL (1952) Vaughan Frederick Randall JONES	

### Olimpiadi Matematiche

#### P1:

Siano  $A_1A_3A_5$  e  $A_2A_4A_6$  due triangoli non degeneri e, per  $i=1, \dots, 6$  sia  $l_i$  la perpendicolare per  $A_i$  alla linea  $A_{i-1}A_{i+1}$  (dove  $A_0=A_6$  e  $A_7=A_1$ ).

Dimostrare che, se  $l_1, l_3, l_5$  concorrono in un unico punto, allora anche  $l_2, l_4, l_6$  concorrono in un unico punto.

*"Die ganze Zahl schuf der liebe Gott, alles Übrige ist Menschenwerk."*

Leopold KRONECKER

*"The shortest path between two truths in the real domain passes through the complex domain."*

Jaques Salomon HADAMARD

*"Now it is quite clear to me that there are no solid spheres in the heavens, and those that have been devised by authors to save the appearances, exist only in their imagination, for the purpose of permitting the mind to conceive the motion which the heavenly bodies trace in their courses."*

Tycho BRACHE

*"Mathematical discoveries, like springtime violets in the woods, have their season which no human can hasten or retard."*

Janos BOLYAI

*"I believe there are 15 747 724 136 275 002 577 605 653 961 181 555 468 044 717 914 527 116 709 366 231 425 076 185 631 031 296 296 protons in the universe and the same number of electrons."*

Arthur EDDINGTON

*"The Analytical Engine weaves algebraic patterns, just as the Jacquard loom weaves flowers and leaves"*

Augusta Ada KING Countess of LOVELACE

*"An expert is someone who knows some of the worst mistakes that can be made in his subject, and how to avoid them"*

Werner Karl HEISENBERG

*"Analysis takes back with one hand what it gives with the other. I recoil in fear and loathing from that deplorable evil: continuous functions with no derivatives."*

Charles HERMITE

*"Priusquam autem ad creationem, hoc est ad finem omnis disputationis, veniamus: tentanda omnia existimo"*

Johannes KEPLER