$$x^3 - 6'144x^2 + 12'582'128x - 8'588'328'960 = 0$$

PAGE 3

DEPARTMENT	COURSE	DESCRIPTION	PREREQS
COMPUTER SCIENCE	CPSC 432	INTERMEDIATE COMPILER DESIGN, WITH A FOCUS ON DEPENDENCY RESOLUTION.	CPSC 432

TURING TEST EXTRA CREDIT:
CONVINCE THE EXAMINER THAT <u>HE'S</u> A COMPUTER.

YOU KNOW, YOU MAKE SOME REALLY GOOD POINTS.

I'M ... NOT EVEN SURE WHO I AM ANYMORE.

Don't forget to attach your safety line.

I don't need a safety line. I've got something better. Watch!

A suction cup, Sam? In a vacuum?

Hey, it worked in my room!

2×1=2 2×
2×2=4 2×
2×3=6 2×
2×4=8 2×

WHEN IT COMES TO THE MULTIPLICATION TABLE, SHE SURE IS A STRICT CONSTRUCTIONIST.
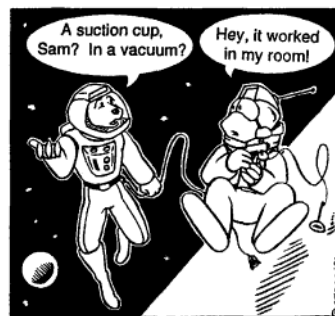
	1	W	(1803) Guglielmo Libri Carucci dalla Sommaja	RM132
			(1878) Agner Krarup Erlang	
			(1894) Satyendranath Bose	RM168
			(1912) Boris Gnedenko	
	2	T	(1822) Rudolf Julius Emmanuel Clausius	RM240
			(1905) Lev Genrichovich Shnirelman	
			(1938) Anatoly Samoilenko	
	3	F	(1917) Yuri Alexeievich Mitropolsky	
	4	S	(1643) Isaac Newton	RM071
	5	S	(1723) Nicole-Reine Étable de Labrière Lepaute	
			(1838) Marie Ennemond Camille Jordan	
			(1871) Federigo Enriques	RM084
			(1871) Gino Fano	
2	6	M	(1807) Jozeph Mitza Petzval	
			(1841) Rudolf Sturm	
	7	T	(1871) Felix Edouard Justin Émile Borel	
			(1907) Raymond Edward Alan Christopher Paley	
	8	W	(1888) Richard Courant	RM156
			(1924) Paul Moritz Cohn	
			(1942) Stephen William Hawking	
	9	T	(1864) Vladimir Adreievich Steklov	
			(1915) Mollie Orshansky	
	10	F	(1875) Issai Schur	
			(1905) Ruth Moufang	
	11	S	(1545) Guidobaldo del Monte	RM120
			(1707) Vincenzo Riccati	
			(1734) Achille Pierre Dionis du Sejour	
	12	S	(1906) Kurt August Hirsch	
			(1915) Herbert Ellis Robbins	RM156
3	13	M	(1864) Wilhelm Karl Werner Otto Fritz Franz Wien	
			(1876) Luther Pfahler Eisenhart	
			(1876) Erhard Schmidt	
			(1902) Karl Menger	
	14	T	(1901) Alfred Tarski	RM096
	15	W	(1704) Johann Castillon	
			(1717) Mattew Stewart	
			(1850) Sofia Vasilievna Kovalevskaya	RM144
	16	T	(1801) Thomas Klausen	
	17	F	(1647) Catherina Elisabetha Koopman Hevelius	
			(1847) Nikolay Egorovich Zukowsky	
			(1858) Gabriel Koenigs	
	18	S	(1856) Luigi Bianchi	
			(1880) Paul Ehrenfest	RM204
	19	S	(1813) Rudolf Friedrich Alfred Clebsch	
			(1879) Guido Fubini	
			(1908) Aleksandr Gennadievich Kurosh	
4	20	M	(1775) André Marie Ampère	
			(1895) Gabor Szegő	
			(1904) Renato Caccioppoli	RM072
	21	T	(1846) Pieter Hendrik Schoute	
			(1915) Yuri Vladimirovich Linnik	
	22	W	(1592) Pierre Gassendi	
			(1886) John William Navin Sullivan	
			(1908) Lev Davidovich Landau	RM228
	23	T	(1840) Ernst Abbe	
			(1862) David Hilbert	RM060
	24	F	(1891) Abram Samoilovitch Besicovitch	
			(1902) Oskar Morgenstern	
			(1914) Vladimir Petrovich Potapov	
	25	S	(1627) Robert Boyle	
			(1736) Joseph-Louis Lagrange	RM048
			(1843) Karl Hermann Amandus Schwarz	
	26	S	(1799) Benoît Paul Émile Clapeyron	
			(1862) Eliakim Hastings Moore	
5	27	M	(1832) Charles Lutwidge Dodgson	RM108
	28	T	(1701) Charles Marie de La Condamine	
			(1888) Louis Joel Mordell	
			(1892) Carlo Emilio Bonferroni	
	29	W	(1817) William Ferrel	
			(1888) Sidney Chapman	
	30	T	(1619) Michelangelo Ricci	RM216
	31	F	(1715) Giovanni Francesco Fagnano dei Toschi	
			(1841) Samuel Loyd	RM192
			(1896) Sofia Alexandrovna Janowskaja	
			(1945) Persi Warren Diaconis	RM180

Putnam 2005, A1

Show that every positive integer is a sum of one or more numbers of the form $2^r 3^s$, where r and s are nonnegative integers and no summand divides another. (For example, $23 = 9 + 8 + 6$.)

Why slide rules or paper pads are better than PCs

A slide rule doesn't shut down abruptly when it gets too hot.

Geometry Jokes

What do you call a man who spent all summer at the beach?
Tangent.

The study of nature with a view to works is engaged in by the mechanic, the mathematician, the physician, the alchemist, and the magician; but by all (as things now are) with slight endeavour and scanty success.

Francis Bacon

Taking Three as the subject to reason about -
A convenient number to state -
We add Seven, and Ten, and then multiply out
By One Thousand diminished by Eight.
The result we proceed to divide, as you see,
By Nine Hundred and Ninety Two:
Then subtract Seventeen, and the answer must be
Exactly and perfectly true.

Charles Lutwidge Dodgson

One began to hear it said that World War I was the chemists' war, World War II was the physicists' war, World War III (may it never come) will be the mathematicians' war.

Philip J. Davis E Reuben Hersh

The mathematician, like the poet, must only see what others do not discern; his gaze must penetrate more deeply.

Sofia Vasilievna Kovalevskaja

Neither you nor I nor anybody else knows what makes a mathematician tick. It is not a question of cleverness. I know many mathematicians who are far abler than I am, but they have not been so lucky. An illustration may be given by considering two miners. One may be an expert geologist, but he does not find the golden nuggets that the ignorant miner does.

Louis Joel Mordell

'Multitudo non est aliud quam aggregatio unitatum' - plurality is nothing else than an aggregate of units.
San Tommaso D'Aquino

A mathematical problem should be difficult in order to entice us, yet not completely inaccessible, lest it mock at our efforts. It should be to us a guide post on the mazy paths to hidden truths, and ultimately a reminder of our pleasure in the successful solution.

David Hilbert

	1	S	(1900) John Charles Burkill	
	2	S	(1522) Lodovico Ferrari	
			(1893) Cornelius Lanczos	
			(1897) Gertrude Blanch	RM229
6	3	M	(1893) Gaston Maurice Julia	RM073
	4	T	(1905) Eric Cristopher Zeeman	RM241
	5	W	(1757) Jean Marie Constant Duhamel	
	6	T	(1465) Scipione del Ferro	RM064
			(1612) Antoine Arnauld	
			(1695) Nicolaus (II) Bernoulli	RM093
	7	F	(1877) Godfried Harold Hardy	RM049
			(1883) Eric Temple Bell	
	8	S	(1700) Daniel Bernoulli	RM093
			(1875) Francis Ysidro Edgeworth	
			(1928) Ennio de Giorgi	RM133
	9	S	(1775) Farkas Wolfgang Bolyai	
			(1907) Harold Scott Macdonald Coxeter	RM097
7	10	M	(1747) Aida Yasuaki	RM121
			(1932) Vivienne Malone-Mayes	
	11	T	(1657) Bernard Le Bovier de Fontenelle	
			(1800) William Henry Fox Talbot	RM205
			(1839) Josiah Willard Gibbs	
			(1915) Richard Wesley Hamming	
	12	W	(1914) Hanna Caemmerer Neumann	
			(1921) Kathleen Rita Mcnulty Mauchly Antonelli	
	13	T	(1805) Johann Peter Gustav Lejeune Dirichlet	RM145
	14	F	(1468) Johann Werner	
			(1849) Hermann Hankel	
			(1877) Edmund Georg Hermann Landau	RM063
			(1896) Edward Artur Milne	
			(1932) Maurice Audin	RM194
	15	S	(1564) Galileo Galilei	RM085
			(1850) Sophie Willock Bryant	
			(1861) Alfred North Whitehead	
			(1946) Douglas Hofstadter	
	16	S	(1822) Francis Galton	
			(1853) Gregorio Ricci-Curbastro	
			(1903) Beniamino Segre	
8	17	M	(1890) Sir Ronald Aylmer Fisher	
			(1891) Adolf Abraham Halevi Fraenkel	
			(1905) Rózsa Péter	
	18	T	(1404) Leon Battista Alberti	RM157
			(1919) Clifford Truesdell	
	19	W	(1473) Nicolaus Copernicus	RM181
	20	T	(1844) Ludwig Boltzmann	RM061
	21	F	(1591) Girard Desargues	
			(1915) Evgeny Michailovich Lifshitz	
	22	S	(1857) Heinrich Rudolf Hertz	
			(1903) Frank Plumpton Ramsey	RM217
	23	S	(1561) Henry Briggs	RM169
			(1583) Jean-Baptiste Morin	
			(1905) Derrick Henry Lehmer	RM215
			(1922) Anneli Cahn Lax	
			(1951) Shigefumi Mori	
9	24	M	(1871) Felix Bernstein	
	25	T	(1827) Henry Watson	
	26	W	(1786) Dominique Francois Jean Arago	RM193
	27	T	(1881) Luitzen Egbertus Jan Brouwer	
	28	F	(1735) Alexandre Théophile Vandermonde	
	29	S	(1860) Herman Hollerith	RM109

February

Putnam 2005, A2

Let $S= \{(a, b): a=1, 2, \dots n, b=1, 2, 3\}$. A *rook tour* of S is a polygonal path made up of line segments connecting points p_1, p_2, …, p_{3n} in sequence such that:

1. $p_i \in S$,
2. p_i and p_{i+1} are a unit distance apart, for $1 \leq i \leq 3n$,
3. for each $p \in S$ there is a unique i such that $p_i = p$.

How many rook tours are there that begin at (1, 1) and end at (n, 1)?

Why slide rules or paper pads are better than PCs

One hundred people all using slide rules and paper pads do not start wailing and screaming due to a single-point failure.

Geometry Jokes

What do you say when you see an empty parrot cage? Polygon.

Those who have never known a professional mathematician can be rather surprised when they meet one, because the mathematician class is probably less familiar to the generic reader than any other group of intellectual workers. The mathematician is a much rarer character in the novels than his cousin scientist.

Eric Temple Bell

The multiplicative axiom is obviously true, the principle of good ordering is obviously false, and, about Zorn's Lemma, who is able to understand any of it?

Jerry Bona

In great mathematics there is a very high degree of unexpectedness, combined with inevitability and economy.
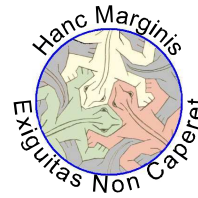
Godfried Harold Hardy

Most of the arts, as painting, sculpture, and music, have emotional appeal to the general public. This is because these arts can be experienced by some one or more of our senses. Such is not true of the art of mathematics; this art can be appreciated only by mathematicians, and to become a mathematician requires a long period of intensive training. The community of mathematicians is similar to an imaginary community of musical composers whose only satisfaction is obtained by the interchange among themselves of the musical scores they compose.

Cornelius Lanczos

The simplest schoolboy is now familiar with facts for which Archimedes would have sacrificed his life.

Ernest Renan

March

	1	S	(1611) John Pell	
			(1879) Robert Daniel Carmichael	
10	2	M	(1836) Julius Weingarten	
	3	T	(1838) George William Hill	
			(1845) Georg Cantor	RM062
			(1916) Paul Richard Halmos	
	4	W	(1822) Jules Antoine Lissajous	
	5	T	(1512) Gerardus Mercator	
			(1759) Benjamin Gompertz	
			(1817) Angelo Genocchi	RM230
			(1885) Pauline Sperry	
			(1915) Laurent Schwartz	RM194
			(1931) Vera Pless	
	6	F	(1866) Ettore Bortolotti	
	7	S	(1792) William Herschel	RM146
			(1824) Delfino Codazzi	
			(1922) Olga Alexandrovna Ladyzhenskaya	
	8	S	(1851) George Chrystal	
11	9	M	(1818) Ferdinand Joachimsthal	
			(1900) Howard Hathaway Aiken	
	10	T	(1864) William Fogg Osgood	
			(1872) Mary Ann Elizabeth Stephansen	
	11	W	(1811) Urbain Jean Joseph Le Verrier	
			(1853) Salvatore Pincherle	
			(1870) Louis Bachelier	RM158
	12	T	(1685) George Berkeley	
			(1824) Gustav Robert Kirchhoff	
			(1859) Ernesto Cesaro	
	13	F	(1861) Jules Joseph Drach	
			(1957) Rudy D'Alembert	
	14	S	(1864) Jozef Kurschak	
			(1879) Albert Einstein	RM074
			(1904) Lyudmila Vsevolodovna Keldysh	
	15	S	(1860) Walter Frank Raphael Weldon	
			(1868) Grace Chisolm Young	
12	16	M	(1750) Caroline Herschel	RM146
			(1789) Georg Simon Ohm	
			(1846) Magnus Gosta Mittag-Leffler	
	17	T	(1876) Ernest Benjamin Esclangon	
			(1897) Charles Fox	
	18	W	(1640) Philippe de La Hire	
			(1690) Christian Goldbach	RM122
			(1796) Jacob Steiner	
			(1870) Agnes Sime Baxter	
	19	T	(1862) Adolf Kneser	
			(1910) Jacob Wolfowitz	
	20	F	(1840) Franz Mertens	
			(1884) Philip Franck	
			(1938) Sergei Petrovich Novikov	
	21	S	(1768) Jean Baptiste Joseph Fourier	RM242
			(1884) George David Birkhoff	
	22	S	(1394) Ulugh Beg	RM206
			(1891) Lorna Mary Swain	
			(1917) Irving Kaplansky	
			(1944) Margaret Hilary Ashworth Millington	
13	23	M	(1749) Pierre-Simon de Laplace	
			(1754) Georg Freiherr von Vega	
			(1882) Emmy Amalie Noether	RM050
			(1897) John Lighton Synge	
	24	T	(1809) Joseph Liouville	
			(1948) Sun-Yung (Alice) Chang	
			(1966) Gigliola Staffilani	RM142
	25	W	(1538) Christopher Clausius	
	26	T	(1848) Konstantin Andreev	
			(1913) Paul Erdős	RM110
	27	F	(1857) Karl Pearson	
	28	S	(1928) Alexander Grothendieck	RM086
	29	S	(1825) Francesco Faà Di Bruno	RM170
			(1873) Tullio Levi-Civita	RM098
			(1896) Wilhelm Ackermann	
14	30	M	(1892) Stefan Banach	RM134
			(1921) Alfréd Rényi	
	31	T	(1596) René Descartes	RM218

Putnam 2005, A3

Let $p(z)$ be a polynomial of degree n, all of whose zeros have absolute value 1 in the complex plane.

Put $g(z) = \frac{p(z)}{z^{n/2}}$. Show that all zeros of $g'(z) = 0$ have absolute value 1.

Why slide rules or paper pads are better than PCs

A slide rule doesn't smoke whenever the power supply hiccups. Moreover a slide rule doesn't care if you smoke, or hiccup.

Geometry Jokes

What do you call a crushed angle?
A Rectangle.

It is an important and popular fact that things are not always as what they seem. For instance, on the planet earth, man has always assumed that he was more intelligent than dolphins because he had achieved so much: the wheel, New York, wars. [...] But conversely, the dolphins had always believed that they were far more intelligent than men; for precisely the same reasons.

Douglas Adams

It is the desire for truth and the sensitivity to the beauty and power and elegance of mathematics that spur mathematicians.

Landon T. Clay

The truth of a theory is in your mind, not in your eyes.

Albert Einstein

Don't just read it; fight it! Ask your own questions, look for your own examples, discover your own proofs. Is the hypothesis necessary? Is the converse true? What happens in the classical special case? What about the degenerate cases? Where does the proof use the hypothesis?

Paul Richard Halmos

Certitude is not the test of certainty. We have been cocksure of many things that were not so.

Oliver Wendell Holmes

The theory of probabilities is at bottom nothing but common sense reduced to calculus; it enables us to appreciate with exactness that which accurate minds feel with a sort of instinct for which ofttimes they are unable to account.

Pierre-Simon De Laplace

Modern science, training the mind in an exact and impartial analysis of facts, is a type of education particularly suited to promoting civic education.

Karl Pearson

Mathematical rigor is like clothing; in its style it ought to suit the occasion, and it diminishes comfort and restrains freedom of movement if it is either too loose or too tight.

George F. Simmons
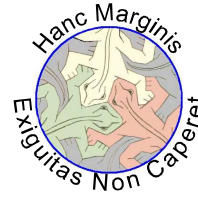
	1	W	(1640) Georg Mohr	
			(1776) Marie-Sophie Germain	RM219
			(1895) Alexander Craig Aitken	
	2	T	(1878) Edward Kasner	
			(1934) Paul Joseph Cohen	
			(1984) Alessio Figalli	RM243
	3	F	(1835) John Howard Van Amringe	
			(1892) Hans Rademacher	
			(1900) Albert Edward Ingham	
			(1909) Stanislaw Marcin Ulam	RM171
			(1971) Alice Riddle	
	4	S	(1809) Benjamin Peirce	RM123
			(1842) François Édouard Anatole Lucas	
			(1949) Shing-Tung Yau	
	5	S	(1588) Thomas Hobbes	
			(1607) Honoré Fabri	
			(1622) Vincenzo Viviani	
			(1869) Sergei Alexeievich Chaplygin	
15	6	M	(1801) William Hallowes Miller	
	7	T	(1768) François-Joseph Français	
	8	W	(1903) Marshall Harvey Stone	
	9	T	(1791) George Peacock	
			(1816) Charles Eugene Delaunay	
			(1894) Cypra Cecilia Krieger Dunaij	
			(1919) John Presper Heckert	
	10	F	(1857) Henry Ernest Dudeney	RM183
	11	S	(1953) Andrew John Wiles	RM207
	12	S	(1794) Germinal Pierre Dandelin	
			(1852) Carl Louis Ferdinand von Lindemann	
			(1903) Jan Tinbergen	
16	13	M	(1728) Paolo Frisi	
			(1813) Duncan Farquharson Gregory	
			(1869) Ada Isabel Maddison	
			(1879) Francesco Severi	
	14	T	(1629) Christiaan Huygens	RM135
	15	W	(1452) Leonardo da Vinci	
			(1548) Pietro Antonio Cataldi	
			(1707) Leonhard Euler	RM051
			(1809) Herman Gunther Grassmann	
	16	T	(1682) John Hadley	
			(1823) Ferdinand Gotthold Max Eisenstein	
	17	F	(1798) Étienne Bobillier	
			(1853) Arthur Moritz Schonflies	
			(1863) Augustus Edward Hough Love	
	18	S	(1791) Ottaviano Fabrizio Mossotti	RM150
			(1907) Lars Valerian Ahlfors	
			(1918) Hsien Chung Wang	
			(1949) Charles Louis Fefferman	
	19	S	(1880) Evgeny Evgenievich Slutsky	
			(1883) Richard von Mises	
			(1901) Kiyoshi Oka	
			(1905) Charles Ehresmann	
17	20	M	(1839) Francesco Siacci	
	21	T	(1652) Michel Rolle	
			(1774) Jean Baptiste Biot	
			(1875) Teiji Takagi	RM231
	22	W	(1811) Otto Ludwig Hesse	
			(1887) Harald August Bohr	RM063
			(1935) Bhama Srinivasan	
			(1939) Sir Michael Francis Atiyah	
	23	T	(1858) Max Karl Ernst Ludwig Planck	
			(1910) Sheila Scott Macintyre	
	24	F	(1863) Giovanni Vailati	
			(1899) Oscar Zariski	RM099
	25	S	(1849) Felix Christian Klein	
			(1900) Wolfgang Pauli	
			(1903) Andrei Nicolayevich Kolmogorov	RM159
	26	S	(1889) Ludwig Josef Johan Wittgenstein	
18	27	M	(1755) Marc-Antoine Parseval des Chenes	
			(1932) Gian-Carlo Rota	RM195
	28	T	(1906) Kurt Gödel	RM087
	29	W	(1854) Jules Henri Poincaré	RM075
	30	T	(1777) Johann Carl Friedrich Gauss	RM147
			(1916) Claude Elwood Shannon	RM111

Hanc Marginis Exiguitas Non Caperet

Rudi Mathematici

April

Putnam 2005, A4

Let H be an $n \times n$ matrix all of whose entries are ±1 and whose rows are mutually orthogonal. Suppose H has an $a \times b$ submatrix whose entries are all 1. Show that $ab \leq n$.

*** Why slide rules or paper pads are better than PCs ***

You can spill coffee on a slide rule; you can actually use a slide rule while completely submerged in coffee, to stir it.

*** Geometry Jokes ***

What did the Italian say when the witch doctor removed the curse?
Hexagon.

Mathematics is the queen of the sciences.
Johann Carl Friedrich Gauss

Science, being human enquiry, can hear no answer except an answer couched somehow in human tones. Primitive man stood in the mountains and shouted against a cliff the echo brought back his own voice, and he believed in a disembodied spirit. The scientist of today stands counting out loud in the face of the unknown. Numbers come back to him - and he believes in the Great Mathematician.
Richard Hughes

Thus all human knowledge begins with intuitions, then proceeds with concepts, and ends with ideas.
Immanuel Kant

Arithmetic! Algebra! Geometry! Grandiose trinity! Luminous triangle! Whoever has not known you is without sense!
Lautréamont

Mathematics can explore the fourth dimension and the world of what is possible, but the Tsar could only be overthrown in the third dimension.
Lenin

A scientist worthy of his name, about all a mathematician, experiences in his work the same impression as an artist; his pleasure is as great and of the same nature.
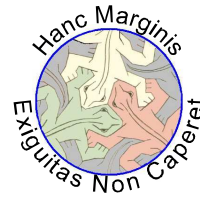Jules Henri Poincarè

It is the invaluable merit of the great Basle mathematician Leonard Euler, to have freed the analytical calculus from all geometric bounds, and thus to have established analysis as an independent science, which from his time on has maintained an unchallenged leadership in the field of mathematics.
Thomas Reid

Mathematics is a logical method... Mathematical propositions express no thoughts. In life it is never a mathematical proposition which we need, but we use mathematical propositions only in order to infer from propositions which do not belong to mathematics to others which equally do not belong to mathematics.
Ludwig Josef Johan Wittgenstein

	1	F	(1825) Johann Jacob Balmer	RM122
			(1908) Morris Kline	
			(1977) Maryam Mirzakhani	RM189
	2	S	(1860) D'Arcy Wentworth Thompson	RM138
			(1905) Kazimierz Zarankiewitz	
	3	S	(1842) Otto Stolz	
			(1860) Vito Volterra	RM136
			(1892) George Paget Thomson	RM161
19	4	M	(1845) William Kingdon Clifford	
	5	T	(1833) Lazarus Emmanuel Fuchs	
			(1883) Anna Johnson Pell Wheeler	
			(1889) René Eugène Gateaux	RM196
			(1897) Francesco Giacomo Tricomi	
			(1923) Cathleen Synge Morawetz	
	6	W	(1872) Willem de Sitter	
			(1906) André Weil	RM088
	7	T	(1854) Giuseppe Veronese	RM220
			(1881) Ebenezer Cunningham	
			(1896) Pavel Sergieievich Alexandrov	
			(1926) Alexis Claude Clairaut	
	8	F	(1859) Johan Ludwig William Valdemar Jensen	
			(1905) Winifred Lydia Caunden Sargent	
	9	S	(1746) Gaspard Monge	RM208
			(1876) Gilbert Ames Bliss	
			(1965) Karen Ellen Smith	
	10	S	(1788) Augustin Jean Fresnel	
			(1847) William Karl Joseph Killing	
			(1904) Edward James Mcshane	
			(1958) Piotr Rezierovich Silverbrahms	
20	11	M	(1902) Edna Ernestine Kramer Lassar	
			(1918) Richard Phillips Feynman	RM076
	12	T	(1820) Florence Nightingale	RM104
			(1845) Pierre René Jean Baptiste Henry Brocard	
			(1902) Frank Yates	
	13	W	(1750) Lorenzo Mascheroni	
			(1899) Pelageia Yakovlevna Polubarinova Kochina	
	14	T	(1832) Rudolf Otto Sigismund Lipschitz	
			(1863) John Charles Fields	RM100
	15	F	(1939) Brian Hartley	
			(1964) Sijue Wu	
	16	S	(1718) Maria Gaetana Agnesi	RM112
			(1821) Pafnuti Lvovi Chebyshev	
			(1911) John (Jack) Todd	RM139
	17	S	(1940) Alan Kay	
21	18	M	(1850) Oliver Heaviside	RM160
			(1892) Bertrand Arthur William Russell	RM052
	19	T	(1865) Flora Philip	
			(1919) Georgii Dimitirievich Suvorov	
	20	W	(1861) Henry Seely White	
	21	T	(1471) Albrecht Dürer	RM124
			(1792) Gustave Gaspard de Coriolis	
	22	F	(1865) Alfred Cardew Dixon	
	23	S	(1914) Lipa Bers	RM148
	24	S	(1544) William Gilbert	
22	25	M	(1838) Karl Mikailovich Peterson	
	26	T	(1667) Abraham de Moivre	
			(1896) Yuri Dimitrievich Sokolov	
	27	W	(1862) John Edward Campbell	
	28	T	(1676) Jacopo Francesco Riccati	RM232
			(1710) Johann (II) Bernoulli	RM093
	29	F	(1882) Harry Bateman	
	30	S	(1814) Eugene Charles Catalan	RM184
	31	S	(1926) John Kemeny	

Rudi Mathematici

May

Putnam 2005, A5

Evaluate $\int_0^1 \frac{\ln(x+1)}{x^2+1}$.

Why slide rules or paper pads are better than PCs

A slide rule and paper pad fit in a briefcase with enough space left for lunch or a change of underwear.

Geometry Jokes

What did the little acorn say when he grew up?
Geometry.

Numbers are intellectual witnesses that belong only to mankind.

Honore De Balzac

Deduction is, or should be, an exact science, and should be treated in the same cold and emotionless way. You have tried to mix it with romanticism, which produces more or less the same effect as if you had added a falling in love or a flight of love in Euclid's fifth postulate.

Sir Arthur Conan Doyle

A theory can only be correct or incorrect. A model has a third possibility: it can be correct, but irrelevant.

Manfred Eigen

Mathematics in itself always entailed a great interest for me. I loved it all my life.

Richard Phillips Feynman

With equal passion I have sought knowledge. I have wished to understand the hearts of men. I have wished to know why the stars shine. And I have tried to apprehend the Pythagorean power by which number holds sway about the flux. A little of this, but not much, I have achieved.

Bertrand Arthur William Russell

Geometry exist everywhere. It is necessary, however, to have eyes to see it, intelligence to understand it, and spirit to wonder at it. The wild Bedouin sees geometric forms but doesn't understand them; the Sunni understands them but does not admire them; the artist, finally, perceives the perfection of figures, understands beauty, and admires order and harmony. God was the Great Geometer. He geometrized heaven and earth.

Malba Tahan

23	1	M	(1796) Sadi Leonard Nicolas Carnot	
			(1851) Edward Bailey Elliott	
			(1899) Edward Charles Titchmarsh	
	2	T	(1895) Tibor Radó	
	3	W	(1659) David Gregory	
			(1954) Susan Landau	
	4	T	(1809) John Henry Pratt	
			(1966) Svetlana Yakovlevna Jitomirskaya	RM197
	5	F	(1814) Pierre Laurent Wantzel	RM065
			(1819) John Couch Adams	
			(1883) John Maynard Keynes	
	6	S	(1436) Johann Müller Regiomontanus	RM185
			(1857) Aleksandr Michailovitch Lyapunov	RM077
			(1906) Max August Zorn	
	7	S	(1863) Edward Burr Van Vleck	
24	8	M	(1625) Giovanni Domenico Cassini	RM245
			(1858) Charlotte Angas Scott	
			(1860) Alicia Boole Stott	
			(1896) Eleanor Pairman	RM209
			(1923) Gloria Olive	
			(1924) Samuel Karlin	
	9	T	(1885) John Edensor Littlewood	RM049
	10	W	(940) Mohammad Abu'L Wafa Al-Buzjani	
			(1887) Vladimir Ivanovich Smirnov	RM101
	11	T	(1881) Hilda Phoebe Hudson	
			(1937) David Bryant Mumford	
	12	F	(1888) Zygmunt Janyszewski	
			(1937) Vladimir Igorevich Arnold	RM221
	13	S	(1831) James Clerk Maxwell	RM113
			(1872) Jessie Chrystal Macmillan	
			(1876) William Sealey Gosset (Student)	
			(1928) John Forbes Nash	RM149
	14	S	(1736) Charles Augustin de Coulomb	
			(1856) Andrei Andreyevich Markov	RM125
			(1903) Alonzo Church	RM233
25	15	M	(1640) Bernard Lamy	
			(1894) Nikolai Gregorievich Chebotaryov	
	16	T	(1915) John Wilder Tukey	
	17	W	(1898) Maurits Cornelius Escher	RM097
	18	T	(1858) Andrew Russell Forsyth	
			(1884) Charles Ernest Weatherburn	
			(1884) Frieda Nugel	
			(1913) Paul Teichmüller	RM148
			(1915) Alice Turner Schafer	
	19	F	(1623) Blaise Pascal	RM053
			(1902) Wallace John Eckert	
	20	S	(1873) Alfred Loewy	
			(1917) Helena Rasiowa	
	21	S	(1781) Simeon Denis Poisson	
			(1828) Giuseppe Bruno	
			(1870) Maria Skłodowska Curie	RM182
26	22	M	(1822) Mario Pieri	
			(1864) Hermann Minkowsky	
			(1910) Konrad Zuse	
			(1932) Mary Wynne Warner	
	23	T	(1912) Alan Mathison Turing	RM089
	24	W	(1880) Oswald Veblen	
	25	T	(1908) William Van Orman Quine	
	26	F	(1824) William Thomson, Lord Kelvin	RM161
			(1918) Yudell Leo Luke	
	27	S	(1806) Augustus de Morgan	
	28	S	(1875) Henri Léon Lebesgue	RM173
27	29	M	(1888) Aleksandr Aleksandrovich Friedmann	RM101
			(1979) Artur Avila Cordeiro de Melo	RM189
	30	T	(1791) Felix Savart	
			(1958) Abigail Thompson	

Rudi Mathematici

June

Putnam 2005, A6

Let n be given, $n \geq 4$, and suppose that P_1, P_2, …, P_n are n randomly, independently and uniformly, chosen points on a circle. Consider the convex n-gon whose vertices are P_i. What is the probability that at least one of the vertex angles of this polygon is acute?

Why slide rules or paper pads are better than PCs

A properly used slide rule can perform pipelined *and* parallel operations. (Okay, you need a guru for this.).

Geometry Jokes

What do you call an angle which is adorable?
Acute angle.

The proverbial "mathematician madman" was more reality than fantasy, I saw the great exponents of the queen of the sciences as moths attracted by superhuman light, splendid but hostile and destructive. Some could not bear it for long, like Pascal and Newton, who abandoned mathematics for theology. Still others had chosen by chance improvised exits – the mad audacity of Evariste Galois, who led him to premature death, immediately comes to mind. Then there were extraordinary brains that gave way and collapsed: Georg Cantor, the father of set theory, spent the last part of his life in an asylum. Ramanujan, Hardy, Turing, Gödel and many others came too close to this light, they burned their wings, they fell and died.

Apostolos Doxiadis

The mathematician is the tailor for the high bourgeoisie of science. He creates clothes, and whoever fits inside can wear them. In other words, the mathematician makes the rules of the game; anyone can play it, as long as he respects the rules. It makes no sense to complain later when the game doesn't yield profits.

E. Kasner, J.R. Newman

If you see a formula in the Physical Review that extends over a quarter of a page, forget it. It's wrong. Nature isn't that complicated.

Bernd T. Matthias

Nature is an infinite sphere of which the center is everywhere and the circumference nowhere.
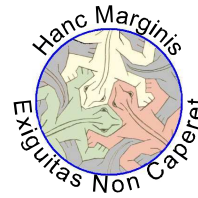
Blaise Pascal

I have no faith in political arithmetic.

Adam Smith

I met a man once who told me that far from believing in the square root of minus one, he didn't believe in minus one. This is at any rate a consistent attitude.

Edward Charles Titchmarsh

July

	1	W	(1643) Gottfried Wilhelm von Leibniz	RM054
			(1788) Jean-Victor Poncelet	
			(1906) Jean Alexandre Eugène Dieudonné	RM246
	2	T	(1820) William John Racquorn Rankine	
			(1852) William Burnside	
			(1925) Olga Arsen'evna Oleinik	
	3	F	(1807) Ernest Jean Philippe Fauque de Jonquiere	RM162
			(1897) Jesse Douglas	
	4	S	(1906) Daniel Edwin Rutherford	
			(1917) Michail Samoilovich Livsic	
	5	S	(1936) James Mirrlees	
28	6	M	(1849) Alfred Bray Kempe	
	7	T	(1816) Johann Rudolf Wolf	
			(1906) William Feller	
			(1922) Vladimir Aleksandrovich Marchenko	
	8	W	(1760) Christian Kramp	
			(1904) Henri Paul Cartan	RM126
	9	T	(1845) George Howard Darwin	RM138
			(1931) Valentina Mikhailovna Borok	RM197
	10	F	(1856) Nikola Tesla	RM174
			(1862) Roger Cotes	
			(1868) Oliver Dimon Kellogg	
	11	S	(1857) Sir Joseph Larmor	
			(1888) Jacob David Tamarkin	RM101
			(1890) Giacomo Albanese	
	12	S	(1875) Ernest Sigismund Fischer	
			(1895) Richard Buckminster Fuller	RM066
			(1935) Nicolas Bourbaki	RM126
29	13	M	(1527) John Dee	RM234
			(1741) Karl Friedrich Hindenburg	
	14	T	(1671) Jacques D'Allonville	
			(1793) George Green	RM078
	15	W	(1865) Wilhelm Wirtinger	
			(1898) Mary Taylor Slow	
			(1906) Adolph Andrej Pavlovich Yushkevich	
	16	T	(1678) Jakob Hermann	
			(1903) Irmgard Flugge-Lotz	
	17	F	(1831) Victor Mayer Amédeé Mannheim	
			(1837) Wilhelm Lexis	
			(1944) Krystyna Maria Trybulec Kuperberg	
	18	S	(1013) Hermann von Reichenau	
			(1635) Robert Hooke	RM114
			(1853) Hendrik Antoon Lorentz	RM161
	19	S	(1768) Francois Joseph Servois	
30	20	M	(1876) Otto Blumenthal	
			(1947) Gerd Binnig	RM222
	21	T	(1620) Jean Picard	
			(1848) Emil Weyr	
			(1849) Robert Simpson Woodward	
			(1861) Herbert Ellsworth Slaught	
	22	W	(1784) Friedrich Wilhelm Bessel	RM198
	23	T	(1775) Étienne-Louis Malus	
			(1854) Ivan Slezynsky	
	24	F	(1851) Friedrich Hermann Schottky	
			(1871) Paul Epstein	
			(1923) Christine Mary Hamill	
	25	S	(1808) Johann Benedict Listing	
	26	S	(1903) Kurt Mahler	
31	27	M	(1667) Johann Bernoulli	RM093
			(1801) George Biddel Airy	
			(1848) Lorand Baron von Eötvös	RM210
			(1867) Derrick Norman Lehmer	RM215
			(1871) Ernst Friedrich Ferdinand Zermelo	RM090
	28	T	(1954) Gerd Faltings	RM222
	29	W	(1898) Isidor Isaac Rabi	
	30	T	(1889) Vladimir Kosma Zworkyn	
	31	F	(1704) Gabriel Cramer	RM186
			(1712) Johann Samuel Koenig	
			(1926) Hilary Putnam	

Rudi Mathematici

Putnam 2005, B1

Find a nonzero polynomial $P(x, y)$ such that $P(\lfloor a \rfloor, \lfloor 2a \rfloor) = 0$ for all real numbers a. (Note: $\lfloor v \rfloor$ is the greatest integer less than or equal to v.)

Why slide rules or paper pads are better than PCs

You don't get junk mail offering pricey upgrades, which fix current floating point errors while introducing new ones.

Geometry Jokes

What do you use to tie up a package?
A Chord.

Mathematical intelligence and linguistic intelligence are two sides of the same coin.

Claudio Bartocci

The great trick of regarding small departures from the truth as the truth itself – on which is founded the entire integral calculus – is also the basis of our witty speculations, where the whole thing would often collapse if we considered the departures with philosophical rigour.

Georg Christoph Lichtenberg

He is unworthy of the name of man who is ignorant of the fact that the diagonal of a square is incommensurable with its side.

Plato

One of the endearing things about mathematicians is the extent to which they will go to avoid doing any real work.

Matthew Pordage

"Women can't study Euclid, can they?"
"They could take a little of everything, I'd say," replied Mr. Stelling. "They have a great deal of superficial intelligence, but they can't go deeper. They are quick and shallow."

George Sand

Little Frank observed for the first time his secret passions. In the same way as the men he had known so far, the numbers fought each other with a ferocity which did not allow for surrender. Later he discovered the variety of their behaviors: they loved each other in brackets, they fornicated multiplying, they annihilated themselves in the subtractions, they built palaces with the Pythagorean solids, they danced from one end to the other of the vast Euclidean geometry, they invented utopias in the differential calculus and condemned themselves to death in the abyss of square roots. Their hell was worse: it was not below zero, in negative numbers – hateful childish simplification – but in paradoxes, in anomalies, in the painful spectrum of probabilities.

Jorge Volpi

	1	S	(1861) Ivar Otto Bendixson	
			(1881) Otto Toeplitz	
			(1955) Bernadette Perrin-Riou	
	2	S	(1856) Ferdinand Rudio	
			(1902) Mina Spiegel Rees	
32	3	M	(1914) Mark Kac	RM115
	4	T	(1805) Sir William Rowan Hamilton	RM079
			(1838) John Venn	
	5	W	(1802) Niels Henrik Abel	RM055
			(1941) Alexander Keewatin Dewdney	
	6	T	(1638) Nicolas Malebranche	
			(1741) John Wilson	
	7	F	(1868) Ladislaus Josephowitsch Bortkiewitz	
	8	S	(1902) Paul Adrien Maurice Dirac	RM103
			(1931) Sir Roger Penrose	
			(1974) Manjul Bhargava	RM189
	9	S	(1537) Francesco Barozzi (Franciscus Barocius)	RM223
			(1940) Linda Goldway Keen	
33	10	M	(1602) Gilles Personne de Roberval	
			(1901) Franco Dino Rasetti	RM235
			(1926) Carol Ruth Karp	
	11	T	(1730) Charles Bossut	
			(1842) Enrico D'Ovidio	
	12	W	(1882) Jules Antoine Richard	
			(1887) Erwin Rudolf Josef Alexander Schrödinger	RM103
	13	T	(1625) Erasmus Bartholin	
			(1819) George Gabriel Stokes	
			(1861) Cesare Burali-Forti	RM187
	14	F	(1530) Giovanni Battista Benedetti	
			(1842) Jean Gaston Darboux	
			(1865) Guido Castelnuovo	
			(1866) Charles Gustave Nicolas de La Vallée-Poussin	
	15	S	(1863) Aleksei Nikolaevich Krylov	
			(1892) Louis Pierre Victor Duc de Broglie	RM175
			(1901) Piotr Sergeevich Novikov	
	16	S	(1773) Louis-Benjamin Francoeur	
			(1821) Arthur Cayley	
34	17	M	(1601) Pierre de Fermat	RM091
	18	T	(1685) Brook Taylor	
	19	W	(1646) John Flamsteed	
			(1739) Georg Simon Klügel	
	20	T	(1710) Thomas Simpson	RM247
			(1863) Corrado Segre	
			(1882) Wacłav Sierpiński	
	21	F	(1789) Augustin-Louis Cauchy	RM127
	22	S	(1647) Denis Papin	
	23	S	(1683) Giovanni Poleni	
			(1829) Moritz Benedikt Cantor	
			(1842) Osborne Reynolds	
35	24	M	(1561) Bartholomeo Pitiscus	
			(1942) Karen Keskulla Uhlenbeck	RM163
	25	T	(1561) Philip Van Lansberge	
			(1844) Thomas Muir	RM199
	26	W	(1728) Johann Heinrich Lambert	
			(1875) Giuseppe Vitali	
			(1965) Marcus Peter Francis du Sautoy	
	27	T	(1858) Giuseppe Peano	RM067
	28	F	(1796) Irénée Jules Bienaymé	
			(1862) Roberto Marcolongo	RM187
	29	S	(1904) Leonard Roth	
	30	S	(1703) Giovanni Ludovico Calandrini	RM186
			(1856) Carle David Tolmé Runge	
			(1906) Olga Taussky-Todd	RM139
36	31	M	(1821) Hermann Ludwig Ferdinand von Helmholtz	RM211
			(1885) Herbert Westren Turnbull	

Rudi Mathematici

Hanc Marginis Exiguitas Non Caperet

August

Putnam 2005, B2

Find all positive integers n, k_1, ..., k_n such that $k_1 + \ldots + k_n = 5n - 4$ and $\frac{1}{k_1} + \cdots + \frac{1}{k_n} = 1$.

Why slide rules or paper pads are better than PCs

A slide rule doesn't need scheduled hardware maintenance.

Geometry Jokes

What do you call a fierce beast?
A Line.

There is a concept that corrupts and confuses all others. I do not speak of the Evil whose limited empire is ethics; I speak of the Infinite.

Jorge Luis Borges

From the study of triangles and algebraic formulas I moved to that of men and things; I understand how useful that study has been for what I now do with men and things.

Camillo Benso Conte Di Cavour

I heard I was accused of being an opponent, an enemy of mathematics. And instead nobody gives it more value than me, since it achieves the very things that I have always been prevented from reaching.

Wolfgang Goethe

Paradoxically, paradoxes are very high information concentrates. In general they indicate dramatically that some intuitive concept that we believed to be cartesianally "clear and distinct" is actually elusive and ambivalent and requires further analysis.

Furio Honsell

The Theory of Groups is a branch of mathematics in which one does something to something and then compares the result with the result obtained from doing the same thing to something else, or something else to the same thing.

James R. Newman

The actual mathematical truth goes beyond mere man-made constructions.

Sir Roger Penrose

If your experiment requires statistics, you should have done a better experiment.

Ernest Rutherford

	1	T	(1647) Giovanni Ceva	RM203
			(1659) Joseph Saurin	
			(1835) William Stanley Jevons	
	2	W	(1878) Mauriche René Frechet	
			(1923) René Thom	RM080
	3	T	(1814) James Joseph Sylvester	RM104
			(1884) Solomon Lefschetz	
			(1908) Lev Semenovich Pontryagin	
	4	F	(1809) Luigi Federico Menabrea	RM150
	5	S	(1667) Giovanni Girolamo Saccheri	RM128
			(1725) Jean-Étienne Montucla	
	6	S	(1859) Boris Jakovlevich Bukreev	
			(1863) Dimitri Aleksandrovich Grave	
37	7	M	(1707) George Louis Leclerc Comte de Buffon	
			(1948) Cheryl Elisabeth Praeger	
			(1955) Efim Zelmanov	
	8	T	(1584) Gregorius Saint-Vincent	
			(1588) Marin Mersenne	RM092
	9	W	(1860) Frank Morley	
			(1914) Marjorie Lee Browne	
	10	T	(1839) Charles Sanders Peirce	RM123
	11	F	(1623) Stefano degli Angeli	
			(1798) Franz Ernst Neumann	
			(1877) Sir James Hopwood Jeans	RM224
	12	S	(1891) Antoine André Louis Reynaud	
			(1894) Dorothy Maud Wrinch	
			(1900) Haskell Brooks Curry	RM212
	13	S	(1873) Constantin Carathéodory	
			(1885) Wilhelm Johann Eugen Blaschke	
38	14	M	(1858) Henry Burchard Fine	
			(1891) Ivan Matveevich Vinogradov	
	15	T	(973) Abu Arrayhan Muhammad Ibn Ahmad Al'Biruni	RM164
			(1886) Paul Pierre Levy	
	16	W	(1494) Francisco Maurolico	
			(1736) Johann Nikolaus Tetens	
	17	T	(1743) Marie Jean Antoine Nicolas de Caritat de Condorcet	RM176
			(1826) Georg Friedrich Bernhard Riemann	RM068
	18	F	(1752) Adrien-Marie Legendre	RM140
	19	S	(1749) Jean-Baptiste Delambre	
	20	S	(1842) Alexander Wilhelm von Brill	
			(1861) Frank Nelson Cole	
39	21	M	(1899) Juliusz Pawel Schauder	
			(1917) Phyllis Nicolson	
	22	T	(1765) Paolo Ruffini	RM116
			(1769) Louis Puissant	
			(1803) Jaques Charles Francois Sturm	
	23	W	(1768) William Wallace	
			(1900) David Van Dantzig	
	24	T	(1501) Girolamo Cardano	RM064
			(1625) Johan de Witt	RM188
			(1801) Michail Vasilevich Ostrogradski	RM056
			(1862) Winifred Edgerton Merrill	RM236
			(1945) Ian Nicholas Stewart	
	25	F	(1819) George Salmon	
			(1888) Stefan Mazurkiewicz	
	26	S	(1688) Willem Jakob 's Gravesande	
			(1854) Percy Alexander Macmahon	
			(1891) Hans Reichenbach	
	27	S	(1855) Paul Émile Appell	
			(1876) Earle Raymond Hedrick	
			(1919) James Hardy Wilkinson	
40	28	M	(1698) Pierre Louis Moreau de Maupertuis	RM152
			(1761) Ferdinand François Desiré Budan de Boislaurent	
			(1873) Julian Lowell Coolidge	
	29	T	(1540) François Viète	RM200
			(1561) Adriaan Van Roomen	RM200
			(1812) Adolph Gopel	
	30	W	(1775) Robert Adrain	
			(1829) Joseph Wolstenholme	
			(1883) Ernst Hellinger	
			(1891) Otto Yulyevich Schmidt	RM248
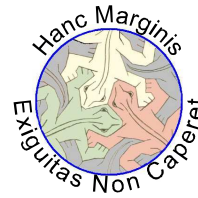
Rudi Mathematici

September

Putnam 2005, B3

Find all differentiable functions f: $(0, \infty) \to (0, \infty)$ for which there is a positive number a such that $f'\left(\frac{a}{x}\right) = \frac{x}{f(x)}$ for all $x>0$.

Why slide rules or paper pads are better than PCs

You can hold a slide rule at arm's length, to hit the obnoxious person sitting in front of you, with no damage (*for the rule*).

Geometry Jokes

What do you call more than one L?
A Parallel.

The essence of infinity is privation: not perfection, but the absence of limits.

Aristotle

I continued to study arithmetic with my father, passing proudly from fractions to decimals. In the end I got to the point where I found it really enchanting that so many cows ate so much grass, and the tanks filled up in so many hours.

Agatha Christie

There can be many infinities, some larger than others. If this seems ridiculous to you, it is. But there is a very natural way in which it turns out that this is true.

Jack Cohen, Terry Pratchett, Ian Stewart

[Mathematics] is the study of ideal constructions (often applicable to real problems) and the discovery through it of relations previously unknown between the parts of these constructions.

Charles Sanders Peirce

Mathematics is the field in which human thought has for the first time experienced the inexpressible joy of dominating with reason the brute data of sensible experience.
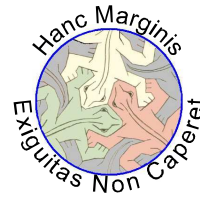
Gaetano Scorza

With a random walk on a square grid, you still have probability 1 to return to the starting point; but in three dimensions the probability is around 0.35. A drunk lost in a desert will reach the oasis sooner or later; but an intoxicated astronaut has more or less one in three chances to go home. Perhaps they should have mentioned this to E.T.

Ian Nicholas Stewart

Mathematicians should have the courage of their deepest convictions and confess that mathematical forms really do have an existence independent of the mind that considers them ... Yet, at some point, whatever it is, mathematicians have only a fragmented and incomplete view of this world of ideas.

René Thom

	1	T	(1671) Luigi Guido Grandi	RM177
			(1898) Bela Kerekjarto'	
			(1912) Kathleen Timpson Ollerenshaw	
	2	F	(1825) John James Walker	
			(1908) Arthur Erdélyi	
	3	S	(1944) Pierre René Deligne	
	4	S	(1759) Louis Francois Antoine Arbogast	
			(1797) Jerome Savary	
41	5	M	(1732) Nevil Maskelyne	
			(1781) Bernhard Placidus Johann Nepomuk Bolzano	RM117
			(1861) Thomas Little Heath	
	6	T	(1552) Matteo Ricci	RM141
			(1831) Julius Wilhelm Richard Dedekind	RM081
			(1908) Sergei Lvovich Sobolev	
	7	W	(1885) Niels Bohr	RM063
	8	T	(1908) Hans Arnold Heilbronn	
	9	F	(1581) Claude Gaspard Bachet de Meziriac	RM201
			(1704) Johann Andrea von Segner	
			(1873) Karl Schwarzschild	RM153
			(1949) Fan Rong K Chung Graham	RM110
	10	S	(1861) Heinrich Friedrich Karl Ludwig Burkhardt	
	11	S	(1675) Samuel Clarke	
			(1777) Barnabè Brisson	
			(1881) Lewis Fry Richardson	
			(1885) Alfred Haar	
			(1910) Cahit Arf	
42	12	M	(1860) Elmer Sperry	
	13	T	(1890) Georg Feigl	
			(1893) Kurt Werner Friedrich Reidemeister	
			(1932) John Griggs Thomson	
	14	W	(1687) Robert Simson	
			(1801) Joseph Antoine Ferdinand Plateau	
			(1868) Alessandro Padoa	
	15	T	(1608) Evangelista Torricelli	RM165
			(1735) Jesse Ramsden	
			(1776) Peter Barlow	
			(1931) Eléna Wexler-Kreindler	
	16	F	(1879) Philip Edward Bertrand Jourdain	
	17	S	(1759) Jacob (II) Bernoulli	RM093
			(1888) Paul Isaac Bernays	
	18	S	(1945) Margaret Dusa Waddington Mcduff	RM249
43	19	M	(1903) Jean Frédéric Auguste Delsarte	
			(1910) Subrahmanyan Chandrasekhar	RM153
	20	T	(1632) Sir Christopher Wren	RM105
			(1863) William Henry Young	
			(1865) Aleksandr Petrovich Kotelnikov	
	21	W	(1677) Nicolaus (I) Bernoulli	RM093
			(1823) Enrico Betti	RM150
			(1855) Giovan Battista Guccia	RM129
			(1893) William Leonard Ferrar	
			(1914) Martin Gardner	RM137
	22	T	(1587) Joachim Jungius	
			(1895) Rolf Herman Nevanlinna	
			(1907) Sarvadaman Chowla	
	23	F	(1865) Piers Bohl	
	24	S	(1804) Wilhelm Eduard Weber	
			(1873) Edmund Taylor Whittaker	
	25	S	(1811) Évariste Galois	RM069
44	26	M	(1849) Ferdinand Georg Frobenius	
			(1857) Charles Max Mason	
			(1911) Shiing-Shen Chern	
	27	T	(1678) Pierre Remond de Montmort	
			(1856) Ernest William Hobson	
	28	W	(1804) Pierre François Verhulst	
	29	T	(1925) Klaus Roth	
	30	F	(1906) Andrej Nikolaevich Tichonov	
			(1946) William Paul Thurston	RM237
	31	S	(1711) Laura Maria Caterina Bassi	RM189
			(1815) Karl Theodor Wilhelm Weierstrass	RM057
			(1935) Ronald Lewis Graham	RM110

Rudi Mathematici

October

Hanc Marginis Exiguitas Non Caperet

Putnam 2005, B4

For positive integers m and n, let $f(m, n)$ denote the numbers of n-tuples $(x_1, x_2, ..., x_n)$ of integers such that $|x_1| + |x_2| + ... + |x_n| \le m$. Show that $f(m, n) = f(n, m)$.

Why slide rules or paper pads are better than PCs

A slide rule is immune to viruses, worms, and other degradations from hostile adolescents with telephones.

Geometry Jokes

What do you call people who are in favour of tractors? Protractors.

We all agree that your theory is crazy, but is it crazy enough?

Niels Bohr

I advise my students to listen carefully the moment they decide to take no more mathematics courses. They might be able to hear the sound of closing doors.

James Caballero

However, there is no doubt that in economics staying too long attached to mathematical exercises can be a detriment, leading to the atrophy of judgment and intuition…

John Kenneth Galbraith

What use can these impossible solutions [the imaginary numbers] have? I reply: triple – for the certainty of the general rule, for their usefulness, and because there are no other solutions to certain equations.

Albert Girard

A good calculator does not need artificial aids.

Lao Tze

The first thing to understand is that mathematics is an art. The difference between mathematics and other arts, such as music and painting, is that our culture does not recognize it as such.
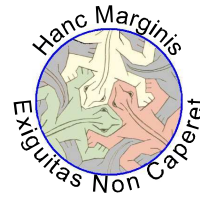
Paul Lockhart

[General MacArthur presents to his staff Goto Dengo, who instead of committing suicide had chosen to become a Christian] You all heard the expression 'the only good jap is the dead jap', right? Well, this young man is a counterexample and , as we learned from mathematics, a single counterexample is enough to refute a theorem.

Neal Stephenson

Mathematics is an exercise, and comparable to dance.

Paul Valéry

	1	S	(1535) Giambattista della Porta	RM226
45	2	M	(1815) George Boole	RM094
			(1826) Henry John Stephen Smith	
	3	T	(1867) Martin Wilhelm Kutta	
			(1878) Arthur Byron Coble	
			(1896) Raymond Louis Wilder	
			(1906) Carl Benjamin Boyer	
	4	W	(1744) Johann (III) Bernoulli	RM093
			(1865) Pierre Simon Girard	
	5	T	(1848) James Whitbread Lee Glaisher	
			(1930) John Frank Adams	
	6	F	(1906) Emma Markovna Trotskaia Lehmer	RM215
	7	S	(1567) Clara Immerwahr	RM182
			(1660) Thomas Fantet de Lagny	
			(1799) Karl Heinrich Graffe	
			(1878) Lise Meitner	RM238
			(1898) Raphael Salem	
	8	S	(1656) Edmond Halley	RM190
			(1781) Giovanni Antonio Amedeo Plana	RM154
			(1846) Eugenio Bertini	
			(1848) Fredrich Ludwig Gottlob Frege	
			(1854) Johannes Robert Rydberg	
			(1869) Felix Hausdorff	RM178
46	9	M	(1847) Carlo Alberto Castigliano	RM202
			(1885) Theodor Franz Eduard Kaluza	
			(1885) Hermann Klaus Hugo Weyl	RM082
			(1906) Jaroslav Borisovich Lopatynsky	
			(1913) Hedwig Eva Maria Kiesler (Hedy Lamarr)	RM144
			(1922) Imre Lakatos	
	10	T	(1829) Helwin Bruno Christoffel	
	11	W	(1904) John Henry Constantine Whitehead	
	12	T	(1825) Michail Egorovich Vashchenko-Zakharchenko	
			(1842) John William Strutt Lord Rayleigh	
			(1927) Yutaka Taniyama	
	13	F	(1876) Ernest Julius Wilkzynsky	
			(1878) Max Wilhelm Dehn	
	14	S	(1845) Ulisse Dini	
			(1919) Paulette Libermann	
			(1975) Martin Hairer	RM189
	15	S	(1688) Louis Bertrand Castel	
			(1793) Michel Chasles	
			(1794) Franz Adolph Taurinus	
47	16	M	(1835) Eugenio Beltrami	RM150
	17	T	(1597) Henry Gellibrand	
			(1717) Jean-Baptiste Le Rond D'Alembert	RM166
			(1790) August Ferdinand Möbius	RM118
	18	W	(1872) Giovanni Enrico Eugenio Vacca	
			(1927) Jon Leslie Britton	
	19	T	(1894) Heinz Hopf	
			(1900) Michail Alekseevich Lavrentev	
			(1901) Nina Karlovna Bari	RM214
	20	F	(1889) Edwin Powell Hubble	
			(1924) Benoît Mandelbrot	
			(1963) William Timothy Gowers	
	21	S	(1867) Dimitri Sintsov	
	22	S	(1803) Giusto Bellavitis	
			(1840) Émile Michel Hyacinthe Lemoine	
48	23	M	(1616) John Wallis	RM070
			(1820) Issac Todhunter	
			(1917) Elizabeth Leonard Scott	RM106
	24	T	(1549) Duncan Maclaren Young Sommerville	
			(1909) Gerhard Gentzen	
	25	W	(1841) Fredrich Wilhelm Karl Ernst Schröder	
			(1873) Claude Louis Mathieu	
			(1943) Evelyn Merle Roden Nelson	
	26	T	(1894) Norbert Wiener	RM172
			(1946) Enrico Bombieri	
	27	F	(1867) Arthur Lee Dixon	
	28	S	(1898) John Wishart	
	29	S	(1803) Christian Andreas Doppler	RM250
			(1849) Sir Horace Lamb	
			(1879) Nikolay Mitrofanovich Krylov	
49	30	M	(1549) Sir Henry Savile	
			(1969) Matilde Marcolli	RM142

Rudi Mathematici

Hanc Marginis Exiguitas Non Caperet

November

Putnam 2005, B5

Let $P(x_1, x_2, \ldots, x_n)$ denote a polynomial with real coefficients in the variables $x_1, x_2, \ldots, x_n$ and suppose that $\left(\frac{\partial^2}{\partial x_1^2} + \cdots + \frac{\partial^2}{\partial x_{n1}^2}\right) P(x_1, \ldots, x_n) = 0$ identically and that $x_1^2 + x_2^2 + \cdots + x_n^2$ divides $P(x_1, x_2, \ldots, x_n)$.

Show that $P=0$ identically.

Why slide rules or paper pads are better than PCs

Additional paper pads can be integrated into the system seamlessly and with no need to reconfigure anything.

Geometry Jokes

What should you do when it rains?
Coincide.

At the end of the nineteenth century, an extraordinary mathematician [Cantor] languished in an asylum. [...] The closer he got to the answers he sought, the more they felt they were moving away. He finally went mad, like other mathematicians before him.

Amir D. Aczel

God forbid that the Truth should remain confined to the Mathematical Demonstration!

William Blake

The only statistics we can trust are the ones we falsified.
Sir Winston Spencer Churchill

The triangle? Still, I find it less dangerous than the trapeze.

Fabio Fazio

From a mathematical point of view, there is nothing wrong with the number 1394840275936498649234987, but if we are not even able to count the votes in Florida it is inconceivable that we can never be certain of having a collection of 1394840275936498649234987 objects.

William Timothy Gowers

...She knew only that if she did or said thus-and-so, men would unerringly respond with the complimentary thus-and-so. It was like a mathematical formula and no more difficult, for mathematics was the one subject that had come easy to Scarlett in her schooldays.

Margaret Mitchell

There is an amazing imagination even in the science of mathematics [...] We reiterate, there is much more imagination in the head of Archimedes than in Homer's.

Voltaire

Scientific discovery consists in the interpretation for our own convenience of a system of existence which has been made with no eye to our convenience at all.

Norbert Wiener

December

	1	T	(1792) Nikolay Yvanovich Lobachevsky	RM083
			(1847) Christine Ladd-Franklin	
	2	W	(1831) Paul David Gustav du Bois-Reymond	
			(1869) Dimitri Fedorovich Egorov	RM214
			(1901) George Frederick James Temple	
	3	T	(1903) Sidney Goldstein	
			(1924) John Backus	
	4	F	(1795) Thomas Carlyle	
	5	S	(1868) Arnold Johannes Wilhelm Sommerfeld	
			(1901) Werner Karl Heisenberg	RM155
			(1907) Giuseppe Occhialini	RM122
	6	S	(1682) Giulio Carlo Fagnano dei Toschi	
50	7	M	(1823) Leopold Kronecker	RM239
			(1830) Antonio Luigi Gaudenzio Giuseppe Cremona	RM150
			(1924) Mary Ellen Rudin	
	8	T	(1508) Regnier Gemma Frisius	
			(1865) Jacques Salomon Hadamard	
			(1919) Julia Bowman Robinson	RM227
	9	W	(1883) Nikolai Nikolaievich Luzin	RM214
			(1906) Grace Brewster Murray Hopper	
			(1917) Sergei Vasilovich Fomin	
	10	T	(1804) Karl Gustav Jacob Jacobi	RM251
			(1815) Augusta Ada King Countess Of Lovelace	RM059
	11	F	(1882) Max Born	RM155
	12	S	(1832) Peter Ludwig Mejdell Sylow	
			(1913) Emma Castelnuovo	RM191
	13	S	(1724) Franz Ulrich Theodosius Aepinus	
			(1887) George Pólya	RM131
51	14	M	(1546) Tycho Brahe	
	15	T	(1802) János Bolyai	RM083
			(1923) Freeman John Dyson	
	16	W	(1804) Wiktor Yakovievich Bunyakowsky	
	17	T	(1706) Gabrielle Émilie Le Tonnelier de Breteuil du Châtelet	
			(1835) Felice Casorati	
			(1842) Marius Sophus Lie	
			(1900) Dame Mary Lucy Cartwright	
	18	F	(1856) Joseph John Thomson	RM161
			(1917) Roger Lyndon	
			(1942) Lenore Blum	
	19	S	(1783) Charles Julien Brianchon	
			(1854) Marcel Louis Brillouin	
			(1887) Charles Galton Darwin	RM138
	20	S	(1494) Oronce Fine	
			(1648) Tommaso Ceva	RM203
			(1875) Francesco Paolo Cantelli	
52	21	M	(1878) Jan Łukasiewicz	
			(1921) Edith Hirsch Luchins	
			(1932) John Robert Ringrose	
	22	T	(1824) Francesco Brioschi	RM150
			(1859) Otto Ludwig Hölder	
			(1877) Tommaso Boggio	
			(1887) Srinivasa Aiyangar Ramanujan	
	23	W	(1872) Georgii Yurii Pfeiffer	
	24	T	(1822) Charles Hermite	RM095
			(1868) Emmanuel Lasker	RM167
	25	F	(1642) Isaac Newton	RM071
			(1900) Antoni Zygmund	
	26	S	(1780) Mary Fairfax Greig Somerville	
			(1791) Charles Babbage	RM059
			(1937) John Horton Conway	RM119
	27	S	(1571) Johannes Kepler	
			(1654) Jacob (Jacques) Bernoulli	RM093
53	28	M	(1808) Louis Victoire Athanase Dupré	
			(1882) Arthur Stanley Eddington	RM179
			(1903) John von Neumann	RM107
	29	T	(1856) Thomas Jan Stieltjes	
	30	W	(1897) Stanislaw Saks	
	31	T	(1872) Volodymyr Levitsky	
			(1896) Carl Ludwig Siegel	
			(1945) Leonard Adleman	RM143
			(1952) Vaughan Frederick Randall Jones	
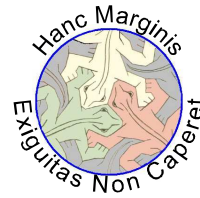
Putnam 2005, B6

Let S_n denote the set of all permutations of the numbers 1, 2, …, n. For $\pi \in S_n$, let $\sigma(\pi) = 1$ if π is an even permutation and $\sigma(\pi) = -1$ if π is an odd permutation. Also, let $v(\pi)$ denote the number of fixed points of π.

Show that $\sum_{\pi \in S_n} \frac{\sigma(\pi)}{v(\pi)+1} = (-1)^{n+1} \frac{n}{n+1}$.

Why slide rules or paper pads are better than PCs

Nobody will make you feel bad by introducing a smaller, faster, cheaper slide rule next month.

Geometry Jokes

My geometry teacher was sometimes acute, and sometimes obtuse, but always, he was right.

It seems that to make a correct conjecture about any event whatever, it is necessary to calculate exactly the number of possible cases and then to determine how much more likely it is that one case will occur than another.

Jacob Bernoulli

I believe there is no philosophical high-road in science, with epistemological signposts. No, we are in a jungle and find our way by trial and error, building our road behind us as we proceed.

Max Born

The question of infinity brought mathematics to the brink of uncertainty.

Joseph Warren Dauben

There are three types of lies: lies, damned lies, and statistics.

Benjamin Disraeli

Two conceptions of the nature of mathematics prevail among mathematicians: Platonism and Formalism. Platonism seems to be the dominant trend, but it is difficult to talk about it in public. Formalism is more respectable philosophically, but it is almost impossible for a militant mathematician to seriously believe in it.

Reuben Hersh

Nature uses as little as possible of anything.

Johannes Kepler

Number theorists are like lotus eaters – once they have tasted their food, they can no longer stop.

Leopold Kronecker

Demonstrations make life easier.

Gabriele Lolli

If you can't solve a problem, then there is an easier problem you can solve: find it.

George Polya