

List of known Mersenne primes

From Mersennewiki

#	n	Digits in M_n	Digits in P_n	Date of discovery	Discoverer
1	2	1 (http://www.mersenneforum.org/txt/01.txt)	1 (http://www.mersenneforum.org/txt/p01.txt)	<i>ancient</i>	<i>ancient</i>
2	3	1 (http://www.mersenneforum.org/txt/02.txt)	2 (http://www.mersenneforum.org/txt/p02.txt)	<i>ancient</i>	<i>ancient</i>
3	5	2 (http://www.mersenneforum.org/txt/03.txt)	3 (http://www.mersenneforum.org/txt/p03.txt)	<i>ancient</i>	<i>ancient</i>
4	7	3 (http://www.mersenneforum.org/txt/04.txt)	4 (http://www.mersenneforum.org/txt/p04.txt)	<i>ancient</i>	<i>ancient</i>
5	13	4 (http://www.mersenneforum.org/txt/05.txt)	8 (http://www.mersenneforum.org/txt/p05.txt)	1456	<i>anonymous</i>
6	17	6 (http://www.mersenneforum.org/txt/06.txt)	10 (http://www.mersenneforum.org/txt/p06.txt)	1588	Cataldi
7	19	6 (http://www.mersenneforum.org/txt/07.txt)	12 (http://www.mersenneforum.org/txt/p07.txt)	1588	Cataldi
8	31	10 (http://www.mersenneforum.org/txt/08.txt)	19 (http://www.mersenneforum.org/txt/p08.txt)	1772	Euler
9	61	19 (http://www.mersenneforum.org/txt/09.txt)	37 (http://www.mersenneforum.org/txt/p09.txt)	1883	Pervushin
10	89	27 (http://www.mersenneforum.org/txt/10.txt)	54 (http://www.mersenneforum.org/txt/p10.txt)	1911	Powers
11	107	33 (http://www.mersenneforum.org/txt/11.txt)	65 (http://www.mersenneforum.org/txt/p11.txt)	1914	Powers
12	127	39 (http://www.mersenneforum.org/txt/12.txt)	77 (http://www.mersenneforum.org/txt/p12.txt)	1876	Lucas

13	521	157 (http://www.mersenneforum.org/txt/13.txt)	314 (http://www.mersenneforum.org/txt/p13.txt)	January 30 1952	Robinson
14	607	183 (http://www.mersenneforum.org/txt/14.txt)	366 (http://www.mersenneforum.org/txt/p14.txt)	January 30 1952	Robinson
15	1,279	386 (http://www.mersenneforum.org/txt/15.txt)	770 (http://www.mersenneforum.org/txt/p15.txt)	June 25 1952	Robinson
16	2,203	664 (http://www.mersenneforum.org/txt/16.txt)	1,327 (http://www.mersenneforum.org/txt/p16.txt)	October 7 1952	Robinson
17	2,281	687 (http://www.mersenneforum.org/txt/17.txt)	1,373 (http://www.mersenneforum.org/txt/p17.txt)	October 9 1952	Robinson
18	3,217	969 (http://www.mersenneforum.org/txt/18.txt)	1,937 (http://www.mersenneforum.org/txt/p18.txt)	September 8 1957	Riesel
19	4,253	1,281 (http://www.mersenneforum.org/txt/19.txt)	2,561 (http://www.mersenneforum.org/txt/p19.txt)	November 3 1961	Hurwitz
20	4,423	1,332 (http://www.mersenneforum.org/txt/20.txt)	2,663 (http://www.mersenneforum.org/txt/p20.txt)	November 3 1961	Hurwitz
21	9,689	2,917 (http://www.mersenneforum.org/txt/21.txt)	5,834 (http://www.mersenneforum.org/txt/p21.txt)	May 11 1963	Gillies
22	9,941	2,993 (http://www.mersenneforum.org/txt/22.txt)	5,985 (http://www.mersenneforum.org/txt/p22.txt)	May 16 1963	Gillies
23	11,213	3,376 (http://www.mersenneforum.org/txt/23.txt)	6,751 (http://www.mersenneforum.org/txt/p23.txt)	June 2 1963	Gillies
24	19,937	6,002 (http://www.mersenneforum.org/txt/24.txt)	12,003 (http://www.mersenneforum.org/txt/p24.txt)	March 4 1971	Tuckerman
25	21,701	6,533 (http://www.mersenneforum.org/txt/25.txt)	13,066 (http://www.mersenneforum.org/txt/p25.txt)	October 30 1978	Noll & Nickel

26	23,209	6,987 (http://www.mersenneforum.org/txt/26.txt)	13,973 (http://www.mersenneforum.org/txt/p26.txt)	February 9 1979	Noll
27	44,497	13,395 (http://www.mersenneforum.org/txt/27.txt)	26,790 (http://www.mersenneforum.org/txt/p27.txt)	April 8 1979	Nelson & Slowinski
28	86,243	25,962 (http://www.mersenneforum.org/txt/28.txt)	51,924 (http://www.mersenneforum.org/txt/p28.txt)	September 25 1982	Slowinski
29	110,503	33,265 (http://www.mersenneforum.org/txt/29.txt)	66,530 (http://www.mersenneforum.org/txt/p29.txt)	January 28 1988	Colquitt & Welsh
30	132,049	39,751 (http://www.mersenneforum.org/txt/30.txt)	79,502 (http://www.mersenneforum.org/txt/p30.txt)	September 20 1983	Slowinski
31	216,091	65,050 (http://www.mersenneforum.org/txt/31.txt)	130,100 (http://www.mersenneforum.org/txt/p31.txt)	September 6 1985	Slowinski
32	756,839	227,832 (http://www.mersenneforum.org/txt/32.txt)	455,663 (http://www.mersenneforum.org/txt/p32.txt)	February 19 1992	Slowinski & Gage
33	859,433	258,716 (http://www.mersenneforum.org/txt/33.txt)	517,430 (http://www.mersenneforum.org/txt/p33.txt)	January 10 1994	Slowinski & Gage
34	1,257,787	378,632 (http://www.mersenneforum.org/txt/34.txt)	757,263 (http://www.mersenneforum.org/txt/p34.txt)	September 3 1996	Slowinski & Gage
35	1,398,269	420,921 (http://www.mersenneforum.org/txt/35.txt)	841,842 (http://www.mersenneforum.org/txt/p35.txt)	November 13 1996 (http://www.mersenne.org/1398269.htm)	Armengaud, Woltman et. al. GIMPS
36	2,976,221	895,932 (http://www.mersenneforum.org/txt/36.txt)	1,791,864 (http://www.mersenneforum.org/txt/p36.txt)	August 24 1997 (http://www.mersenne.org/2976221.htm)	Spence, Woltman et. al. GIMPS

37	3,021,377	909,526 (http://www.mersenneforum.org/txt/37.txt)	1,819,050 (http://www.mersenneforum.org/txt/p37.txt)	January 27 1998 (http://www.mersenne.org/3021377.htm)	Clarkson, Woltman, Kurowski et. al. GIMPS & PrimeNet
38	6,972,593	2,098,960 (http://www.mersenneforum.org/txt/38.txt)	4,197,919 (http://www.mersenneforum.org/txt/p38.txt)	June 1 1999 (http://www.mersenne.org/6972593.htm)	Hajratwala, Woltman, Kurowski et. al. GIMPS & PrimeNet
39	13,466,917	4,053,946 (http://www.mersenneforum.org/txt/39.txt)	8,107,892 (http://www.mersenneforum.org/txt/p39.txt)	November 14 2001 (http://www.mersenne.org/13466917.htm)	Cameron, Woltman, Kurowski et. al. GIMPS & PrimeNet
40 *	20,996,011	6,320,430 (http://www.mersenneforum.org/txt/40.txt)	12,640,858 (http://www.mersenneforum.org/txt/p40.txt)	November 17 2003 (http://www.mersenne.org/20996011.htm)	Shafer, Woltman, Kurowski et. al. GIMPS & PrimeNet
41 *	24,036,583	7,235,733 (http://www.mersenneforum.org/txt/41.txt)	14,471,465 (http://www.mersenneforum.org/txt/p41.txt)	May 15 2004 (http://www.mersenne.org/24036583.htm)	Findley, Woltman, Kurowski et. al. GIMPS & PrimeNet
42 *	25,964,951	7,816,230 (http://www.mersenneforum.org/txt/42.txt)	15,632,458 (http://www.mersenneforum.org/txt/p42.txt)	February 18 2005 (http://www.mersenne.org/25964951.htm)	Nowak, Woltman, Kurowski et. al. GIMPS & PrimeNet
43 *	30,402,457	9,152,052 (http://www.mersenneforum.org/txt/43.txt)	18,304,103 (http://www.mersenneforum.org/txt/p43.txt)	December 15 2005 (http://www.mersenne.org/30402457.htm)	Cooper, Boone, Woltman, Kurowski et. al. GIMPS & PrimeNet
44 *	32,582,657	9,808,358 (http://www.mersenneforum.org/txt/44.txt)	19,616,714 (http://www.mersenneforum.org/txt/p44.txt)	September 4 2006 (http://www.mersenne.org/32582657.htm)	Cooper, Boone, Woltman, Kurowski et. al. GIMPS & PrimeNet
45 *	37,156,667	11,185,272 (http://www.mersenneforum.org/txt/45.txt)	22,370,543 (http://www.mersenneforum.org/txt/p45.txt)	September 6 2008 (http://www.mersenne.org/m45and46.htm)	Elvenich, Woltman, Kurowski, et al. GIMPS & PrimeNet
46 *	43,112,609	12,978,189 (http://www.mersenneforum.org/txt/46.txt)	25,957,378 (http://www.mersenneforum.org/txt/p46.txt)	August 23 2008 (http://www.mersenne.org/m45and46.htm)	Smith, Woltman, Kurowski, et al. GIMPS & PrimeNet

* It is not known whether any undiscovered Mersenne primes exist between the 39th ($M_{13466917}$) and the 46th ($M_{43112609}$) on this chart; the ranking is therefore provisional.

See also

Mersenne prime

External links

- Great Internet Mersenne Prime Search (GIMPS) (<http://www.mersenne.org>) - home page of mersenne.org
- prime Mersenne Numbers - History, Theorems and Lists (<http://www.utm.edu/research/primes/mersenne.shtml>) Explanation
- GIMPS Mersenne Prime (<http://www.mersenne.org/status.htm>) - status page gives various statistics on search progress, typically updated every week, including progress towards proving the ordering of primes 39-44ff
- Mersenne numbers (<http://mathworld.wolfram.com/MersenneNumber.html>) - Wolfram Research/Mathematica
- prime Mersenne numbers (<http://mathworld.wolfram.com/MersennePrime.html>) - Wolfram Research/Mathematica
- $M_q = (8x)^2 - (3qy)^2$ Mersenne Proof (<http://tony.reix.free.fr/Mersenne/Mersenne8x3qy.pdf>) (pdf)
- $M_q = x^2 + d.y^2$ Math Thesis (<http://www.math.leidenuniv.nl/scripties/jansen.ps>) (pdf)
- Mersenne Prime Bibliography (<http://www.utm.edu/research/primes/mersenne/LukeMirror/biblio.htm>) with Hyperlinks to original publications
- dpa - reportage about prime mersenne number (<http://www.taz.de/pt/2005/03/11/a0355.nf/text>) - detection in detail (German)

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