

## List of Mersenne primes

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Mersenne primes  $M_p$  are generated by the formula  $2^p - 1$ , where  $p$  is prime.

#	$p$	$M_p$	Digits in $M_p$	Date of discovery	Discoverer
1	2	3	1	5th century BC	Ancient Greek mathematicians
2	3	7	1	5th century BC	Ancient Greek mathematicians
3	5	31	2	3rd century BC	Ancient Greek mathematicians
4	7	127	3	3rd century BC	Ancient Greek mathematicians
5	13	8,191	4	1456	<i>anonymous</i>
6	17	131,071	6	1588	Cataldi
7	19	524,287	6	1588	Cataldi
8	31	2,147,483,647	10	1772	Euler
9	61	2,305,843,009,213,693,951	19	1883	Pervushin
10	89	618970019...449562111	27	1911	Powers
11	107	162259276...010288127	33	1914	Powers
12	127	170141183...884105727	39	1876	Lucas
13	521	686479766...115057151	157	January 30, 1952	Robinson, using SWAC
14	607	531137992...031728127	183	January 30, 1952	Robinson
15	1,279	104079321...168729087	386	June 25, 1952	Robinson
16	2,203	147597991...697771007	664	October 7, 1952	Robinson
17	2,281	446087557...132836351	687	October 9, 1952	Robinson
18	3,217	259117086...909315071	969	September 8, 1957	Riesel, using BESK
19	4,253	190797007...350484991	1281	November 3, 1961	Hurwitz, using IBM 7090
20	4,423	285542542...608580607	1332	November 3, 1961	Hurwitz
21	9,689	478220278...225754111	2917	May 11, 1963	Gillies, using ILLIAC II
22	9,941	346088282...789463551	2993	May 16, 1963	Gillies
23	11,213	281411201...696392191	3376	June 2, 1963	Gillies
24	19,937	431542479...968041471	6002	March 4, 1971	Tuckerman, using IBM 360/91
25	21,701	448679166...511882751	6533	October 30, 1978	Noll & Nickel, using CDC Cyber 174
26	23,209	402874115...779264511	6987	February 9, 1979	Noll
27	44,497	854509824...011228671	13395	April 8, 1979	Nelson & Slowinski
28	86,243	536927995...433438207	25962	September 25, 1982	Slowinski
29	110,503	521928313...465515007	33265	January 28, 1988	Colquitt & Welsh
30	132,049	512740276...730061311	39751	September 19, 1983	Slowinski
31	216,091	746093103...815528447	65050	September 1, 1985	Slowinski
32	756,839	174135906...544677887	227832	February 19, 1992	Slowinski & Gage on Harwell Lab Cray-2
33	859,433	129498125...500142591	258716	January 4, 1994	Slowinski & Gage
34	1,257,787	412245773...089366527	378632	September 3, 1996	Slowinski & Gage
35	1,398,269	814717564...451315711	420921	November 13, 1996	GIMPS / Joel Armengaud
36	2,976,221	623340076...729201151	895932	August 24, 1997	GIMPS / Gordon Spence
37	3,021,377	127411683...024694271	909526	January 27, 1998	GIMPS / Roland Clarkson
38	6,972,593	437075744...924193791	2098960	June 1, 1999	GIMPS / Nayan Hajratwala
39	13,466,917	924947738...256259071	4053946	November 14, 2001	GIMPS / Michael Cameron
40?	20,996,011	125976895...855682047	6320430	November 17, 2003	GIMPS / Michael Shafer
41?	24,036,583	299410429...733969407	7235733	May 15, 2004	GIMPS / Josh Findley
42?	25,964,951	122164630...577077247	7816230	February 18, 2005	GIMPS / Martin Nowak
43?	30,402,457	315416475...652943871	9152052	December 15, 2005	GIMPS / Curtis Cooper & Steven Boone
44?	32,582,657	124575026...053967871	9808358	September 4, 2006	GIMPS / Curtis Cooper & Steven Boone
45?	37,156,667	202254406...308220927	11185272	September 6, 2008	GIMPS / Hans-Michael Elvenich
46?	42,643,801	169873516...562314751	12837064	April 12, 2009	GIMPS / Odd M. Strindmo
47?	43,112,609	316470269...697152511	12978189	August 23, 2008	GIMPS / Edson Smith