GIMPS Mersenne Prime Search

Test Report

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A record of GPU-accelerated primality testing performed in the search for new Mersenne primes, $2^p - 1$, under the Great Internet Mersenne Prime Search (GIMPS).

145	**0**
Mersenne numbers tested	probable primes found

Current GIMPS leaderboard ranks

67	First Primality Tests
224	Overall Producers

[1] With the help of my friends Claudius and Gustaf-Petter-Tore.

1 Introduction

This report summarises Probable Prime (PRP) tests completed on this machine as part of GIMPS. Each test checks whether a number of the form $2^p - 1$, for a prime exponent p, is a probable prime, using the Fermat PRP test (base 3) combined with a Gerbicz error-check to detect computational errors during the run. Each completed test additionally produces a certificate (a compressed proof) that can be verified independently and is uploaded to the PrimeNet server for double-checking.

A result of *composite* means the residue test failed to return 1, proving $2^p - 1$ is not prime. A result of *probable prime* would indicate a new Mersenne prime candidate, pending independent verification.

For the underlying number theory — what Mersenne primes are, why the PRP test work, and how they relate to perfect numbers — see the author's thesis *Mersenne Primes and the Quest to Find Them*.

2 Completed Tests

#	Exponent	Digits	Date	Result
1	159,942,383	48,147,455	2026-04-17	Composite[2]
2	147,316,121	44,346,572	2026-04-28	Composite
3	147,217,223	44,316,801	2026-04-22	Composite
4	147,202,189	44,312,275	2026-04-17	Composite
5	147,202,151	44,312,263	2026-04-13	Composite
6	146,832,163	44,200,886	2026-09-13	Composite
7	146,829,707	44,200,147	2026-09-12	Composite
8	146,829,461	44,200,073	2026-09-02	Composite
9	146,801,423	44,191,632	2026-09-14	Composite
10	146,801,251	44,191,580	2026-09-14	Composite
11	146,798,867	44,190,863	2026-08-18	Composite
12	146,798,279	44,190,686	2026-08-17	Composite
13	146,797,243	44,190,374	2026-08-17	Composite
14	146,796,409	44,190,123	2026-08-19	Composite
15	146,793,403	44,189,218	2026-08-31	Composite
16	146,791,847	44,188,750	2026-08-30	Composite
17	146,787,019	44,187,296	2026-09-11	Composite
18	146,785,669	44,186,890	2026-09-12	Composite
19	146,777,453	44,184,417	2026-09-16	Composite
20	146,777,011	44,184,283	2026-08-16	Composite
21	146,773,477	44,183,220	2026-08-30	Composite
22	146,773,439	44,183,208	2026-08-29	Composite
23	146,773,397	44,183,196	2026-08-28	Composite
24	146,773,279	44,183,160	2026-08-27	Composite
25	146,773,247	44,183,150	2026-08-27	Composite
26	146,767,849	44,181,525	2026-09-10	Composite
27	146,766,601	44,181,150	2026-08-26	Composite
28	146,766,527	44,181,127	2026-08-25	Composite
29	146,766,517	44,181,124	2026-08-25	Composite

[2] P-1 factoring stage (B1=925,000, B2=122,789,856) found factor 228521907807306214299025 7 (80.9 bits), proving $2^p - 1$ composite directly — no PRP test was needed for this exponent.

#	Exponent	Digits	Date	Result
30	146,766,173	44,181,021	2026-08-24	Composite
31	146,750,441	44,176,285	2026-08-20	Composite
32	146,733,761	44,171,264	2026-09-09	Composite
33	146,733,739	44,171,257	2026-09-09	Composite
34	146,733,619	44,171,221	2026-09-08	Composite
35	146,732,161	44,170,782	2026-09-01	Composite
36	146,730,289	44,170,219	2026-09-07	Composite
37	146,728,007	44,169,532	2026-08-23	Composite
38	146,727,953	44,169,516	2026-08-22	Composite
39	146,726,551	44,169,094	2026-08-15	Composite
40	146,725,991	44,168,925	2026-08-14	Composite
41	146,719,873	44,167,083	2026-08-22	Composite
42	146,716,147	44,165,962	2026-08-21	Composite
43	146,714,431	44,165,445	2026-08-20	Composite
44	146,697,559	44,160,366	2026-09-06	Composite
45	146,692,907	44,158,966	2026-09-03	Composite
46	146,692,241	44,158,765	2026-09-01	Composite
47	146,683,261	44,156,062	2026-09-04	Composite
48	146,669,623	44,151,956	2026-09-06	Composite
49	146,669,351	44,151,875	2026-09-05	Composite
50	146,668,813	44,151,713	2026-09-04	Composite
51	146,517,131	44,106,052	2026-08-14	Composite
52	146,515,991	44,105,709	2026-08-13	Composite
53	146,455,259	44,087,426	2026-08-12	Composite
54	146,350,247	44,055,815	2026-08-11	Composite
55	146,283,343	44,035,675	2026-08-11	Composite
56	146,279,927	44,034,646	2026-07-31	Composite
57	146,213,183	44,014,554	2026-07-31	Composite
58	146,129,611	43,989,397	2026-07-30	Composite
59	146,065,679	43,970,151	2026-07-29	Composite
60	145,990,589	43,947,547	2026-07-28	Composite
61	145,968,283	43,940,832	2026-07-27	Composite
62	145,967,233	43,940,516	2026-07-26	Composite
63	145,967,191	43,940,503	2026-07-26	Composite
64	145,547,641	43,814,206	2026-07-24	Composite
65	145,547,609	43,814,197	2026-07-23	Composite
66	145,547,599	43,814,194	2026-07-23	Composite
67	145,547,537	43,814,175	2026-07-21	Composite
68	145,547,533	43,814,174	2026-07-21	Composite
69	145,547,431	43,814,143	2026-07-19	Composite
70	145,446,563	43,783,779	2026-07-18	Composite
71	145,446,199	43,783,669	2026-07-17	Composite
72	145,409,767	43,772,702	2026-07-15	Composite
73	145,264,033	43,728,832	2026-07-14	Composite
74	144,970,003	43,640,320	2026-07-12	Composite
75	144,936,683	43,630,290	2026-06-10	Composite
76	144,858,403	43,606,725	2026-07-07	Composite
77	144,810,451	43,592,290	2026-06-17	Composite
78	144,794,339	43,587,440	2026-07-02	Composite
79	144,764,881	43,578,572	2026-05-14	Composite

#	Exponent	Digits	Date	Result
80	144,736,483	43,570,023	2026-06-25	Composite
81	144,170,209	43,399,558	2026-10-30	Composite
82	144,154,949	43,394,964	2026-10-29	Composite
83	144,150,817	43,393,720	2026-10-29	Composite
84	144,142,309	43,391,159	2026-10-28	Composite
85	144,126,019	43,386,255	2026-10-27	Composite
86	143,993,351	43,346,318	2026-10-26	Composite
87	143,986,559	43,344,274	2026-10-27	Composite
88	143,886,803	43,314,244	2026-10-25	Composite
89	143,830,847	43,297,400	2026-10-24	Composite
90	143,797,853	43,287,468	2026-10-24	Composite
91	143,774,821	43,280,534	2026-10-23	Composite
92	143,764,979	43,277,572	2026-10-22	Composite
93	143,752,031	43,273,674	2026-10-22	Composite
94	143,735,881	43,268,812	2026-10-21	Composite
95	143,725,271	43,265,618	2026-10-20	Composite
96	143,610,877	43,231,182	2026-10-20	Composite
97	143,610,773	43,231,151	2026-10-19	Composite
98	143,610,767	43,231,149	2026-10-18	Composite
99	143,610,517	43,231,074	2026-10-17	Composite
100	143,597,021	43,227,011	2026-10-17	Composite
101	143,569,079	43,218,600	2026-10-16	Composite
102	143,556,979	43,214,957	2026-10-15	Composite
103	143,537,143	43,208,986	2026-10-15	Composite
104	143,520,757	43,204,053	2026-10-14	Composite
105	143,475,737	43,190,501	2026-10-13	Composite
106	143,475,727	43,190,498	2026-10-13	Composite
107	143,475,713	43,190,494	2026-10-12	Composite
108	143,475,667	43,190,480	2026-10-11	Composite
109	143,471,701	43,189,286	2026-10-10	Composite
110	143,464,147	43,187,012	2026-10-10	Composite
111	143,464,127	43,187,006	2026-10-09	Composite
112	143,455,657	43,184,456	2026-10-08	Composite
113	143,448,757	43,182,379	2026-10-08	Composite
114	143,438,047	43,179,155	2026-10-07	Composite
115	143,424,703	43,175,138	2026-10-06	Composite
116	143,408,137	43,170,151	2026-10-05	Composite
117	143,396,849	43,166,753	2026-10-05	Composite
118	143,387,821	43,164,036	2026-10-04	Composite
119	143,376,799	43,160,718	2026-10-03	Composite
120	143,368,399	43,158,189	2026-10-03	Composite
121	143,358,961	43,155,348	2026-10-02	Composite
122	143,338,757	43,149,266	2026-10-01	Composite
123	143,338,739	43,149,260	2026-09-30	Composite
124	143,302,771	43,138,433	2026-09-29	Composite
125	143,281,613	43,132,064	2026-09-28	Composite
126	143,271,047	43,128,883	2026-09-27	Composite
127	143,257,091	43,124,682	2026-09-26	Composite
128	143,250,707	43,122,760	2026-09-26	Composite
129	143,236,321	43,118,430	2026-09-25	Composite

#	Exponent	Digits	Date	Result
130	143,169,343	43,098,267	2026-09-24	Composite
131	143,161,519	43,095,912	2026-09-23	Composite
132	143,160,949	43,095,740	2026-09-23	Composite
133	143,155,673	43,094,152	2026-09-22	Composite
134	143,136,437	43,088,362	2026-09-21	Composite
135	143,136,353	43,088,336	2026-09-21	Composite
136	143,136,167	43,088,280	2026-09-20	Composite
137	143,135,957	43,088,217	2026-09-19	Composite
138	143,133,167	43,087,377	2026-09-19	Composite
139	143,124,013	43,084,622	2026-09-18	Composite
140	143,116,451	43,082,345	2026-09-17	Composite
141	143,110,463	43,080,543	2026-09-16	Composite
142	143,104,739	43,078,819	2026-09-16	Composite
143	142,849,303	43,001,926	2026-09-28	Composite
144	142,834,421	42,997,446	2026-10-01	Composite
145	142,824,707	42,994,521	2026-05-30	Composite