

Department of Computer Sciences
Purdue University
West Lafayette, IN 47907
May 11, 2016

One “Most Wanted” number from the wanted lists issued with Page 129 was factored on Page 131. Mersenneforum factored 2,991– by the Special Number Field Sieve. Of the Mersenne numbers $2^p - 1$ listed in the (1988) printed Cunningham table book, it was the last one to be factored completely. (Currently, the first Mersenne number not completely factored is $2^{1207} - 1$. The first Mersenne number with no known factor is $2^{1277} - 1$.)

Seven “Most Wanted” numbers from the wanted lists issued with Page 130 were factored on Page 131. NFS@Home factored 2,983+, 6,376+, 10,298+, 5,419–, 5,419+, 7,346+ and 2,989+, all by the Special Number Field Sieve.

One “More Wanted” number from the wanted lists issued with Page 130 was factored on Page 131. NFS@Home factored 2,991+ by the SNFS.

No “Smaller-but-Needed” number was factored on Page 131.

New wanted lists are enclosed.

ECMNET means Paul Zimmermann, Alex Kruppa, Torbjörn Granlund, Michel Quercia, Witold Grabysz, Vilmar Trevisan and many helpers who use the GMP-ECM program of Kruppa and Zimmermann. NFS@Home is a group led by Greg Childers.

There were no new champions for factoring Cunningham numbers on this page. A list of recent champions is enclosed.

The first holes factored on Page 131 are in # 6334, # 6349, # 6354, # 6356, # 6357, # 6358, # 6359, # 6361, # 6362 and # 6363. No second or third holes were factored on Page 131. The only fourth hole factored on Page 131 is in # 6355. The fifth holes factored on Page 131 are in # 6335 and # 6337.

The smallest new factor reported on Page 131 has 57 digits. See # 6339. (Another, slightly larger P57 is in # 6352.) The largest number factored on Page 131 has 363 digits. See # 6347.

See the URL <http://www.prothsearch.net/fermat.html> for Wilfrid Keller’s list of all known Fermat factors.

One new Mersenne prime was found since the last page. The current largest known prime is $2^{74207281} - 1$. See the URL <http://primes.utm.edu/primes/> for Chris Caldwell’s database of the largest known primes (updated hourly).

See the URL <http://homes.cerias.purdue.edu/~ssw/cun/index.html> for the online Cunningham book.

Please send me any address changes.

Keep the factors coming!

Sam Wagstaff