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Two "Most Wanted" numbers from the wanted lists issued with Page 99 were factored on Page 101. Using the Special Number Field Sieve, NFSNET″ factored 2,761− and Franke factored 2,739−.

Two "Most" and three "More Wanted" numbers from the wanted lists issued with Page 100 were factored on Page 101. Using the Special Number Field Sieve, Kruppa and Franke factored 3,463+ and Silverman factored 2,781−. Also with SNFS, Kruppa and Franke factored 3,487− and Kleinjung factored 2,793−. Using the Elliptic Curve Method, CWI factored 12,227−.

Three "Smaller-but-Needed" numbers were factored on Page 101, all by the General Number Field Sieve. Irvine factored 2,2250L and 2,1806M, and CWI factored 5,815M.

The updated wanted lists issued with Page 100 are enclosed.

CWI means Peter Montgomery, Herman te Riele and Willemien Ekkelkamp at the Centrum voor Wiskunde en Informatica in Amsterdam. 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. NFSNET″ is a group of factorers lead by Don Leclair, Paul Leyland and Richard Wackerbarth and with contributions from many volunteer workers. See their URL `http://www.nfsnet.org` .

There were three new champions for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. The single factorization of 6,353− in # 5331 is a new champion (first place) for SNFS by size, for SNFS by difficulty and for largest penultimate prime factor. A list of recent champions is enclosed.

The first holes done on Page 101 are in # 5317, # 5322, # 5323 # 5324, # 5330 and # 5351. The second holes done on Page 101 are in # 5325 and # 5347. The only third hole done on Page 101 is in # 5332. The fourth holes done on Page 101 are in # 5316 and # 5339. The only fifth hole done on Page 101 is in # 5340.

The smallest new factor reported on Page 101 has 45 digits. See # 5349. The largest number factored on Page 101 has 371 digits. See # 5346. There was a typo in this paragraph in the letter with Page 100. I said there that the smallest new factor reported on Page 101 has 43 digits and was in # 5308. But in fact there was an even smaller 43-digit prime factor reported in the last line, # 5311, of that page. I thank Peter Montgomery for noticing this error.

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

See the URL `http://www.utm.edu/research/primes/largest.html` for Chris Caldwell's list of all of the largest known Mersenne primes. The largest known Mersenne prime, the forty-third one to be disovered, is $2^{30402457} - 1$.

See the URL `http://www.cerias.purdue.edu/homes/ssw/cun/index.html` for the online Cunningham book. The full text is available at the AMS web site: `http://www.ams.org/online_bks/conm22` .

Please tell me if your address is wrong.

Keep the factors coming!

Sam Wagstaff