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March 21, 2000

Four “Most” and two “More Wanted” numbers were factored on Page 83, all by the Number Field Sieve. From the wanted lists mailed with Page 82 on October 3, 1999, NFSNET’ factored the “Most Wanted” numbers 2,629– and 2,608+, Bob Silverman and CWI factored the “Most Wanted” number 10,181+, and Silverman, NFSNET’ and CWI factored the “Most Wanted” number 10,184+. CWI factored the “More Wanted” number 7,211+ and Kida factored the “More Wanted” number 11,187–.

New wanted lists are enclosed on the Champions page.

All numbers published in the second edition have been factored except for many base 2 numbers and three base 10 numbers. The three base 10 numbers are on the Most Wanted list.

CWI means Henk Boender, Stefania Cavallar, Walter Lioen, Peter Montgomery, Herman te Riele and Dik Winter at the Centrum voor Wiskunde en Informatica in Amsterdam. ECMNET means Paul Zimmermann, Torbjörn Granlund, Michel Quercia, Witold Grabysz, Vilmar Trevisan and many helpers who use Granlund’s GMP-ECM program. NFSNET’ means CWI, Bob Silverman, Peter Montgomery, Alex Kruppa, Don Leclair, Ernst Mayer and the volunteer sievers Pierre Abbat, Ricardo Aguilera, Brian Briggs, Gary Clayton, David Crandell, Conrad Curry, Kelly Hall, Philip Heede, Jim Howell, Skip Key, Alex Kruppa, Samuli Larvala, Don Leclair, Ernst Mayer, Thomas Noekleby, Henrik Oluf Olsen, Marcio de Moraes Palmeira, Guillermo Ballester Valor and Paulo Vargas.

There were two new champions for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. The factorization of 10,212+ c141 set a new record for the General Number Field Sieve by size of number factored. The factorization of 2,749– set a new record in the same category and should have been credited when Page 82 was issued. The factorization of 2,629– set a new record (second place) for the Special Number Field Sieve by SNFS difficulty. A list of recent champions and the first holes in each table is given on another sheet.

The first holes done on Page 83 are in # 4406, # 4420, # 4422, # 4444, # 4448, and # 4463. The only second hole done on Page 83 is in # 4421. The only third hole done on Page 83 is in # 4459. The fourth holes done on Page 83 are in # 4414, # 4419, # 4447, and # 4455. The fifth holes done on Page 83 are in # 4430 and # 4434.

The smallest new factor reported on Page 83 has 32 digits. See # 4413. The largest number factored on Page 83 has 299 digits. See # 4412.

See the URL <http://vamri.xray.ufl.edu/proths/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.

If your address changes, please tell me.

Keep the factors coming!

Sam Wagstaff