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Many "Wanted" numbers were factored on Page 89, all but one by the Number Field Sieve. From the third edition wanted lists, J. Franke and T. Kleinjung, with help from P. Montgomery and CWI, factored the "Most Wanted" numbers 3,397− and 3,397+. NFSNET" factored the "Most Wanted" numbers 6,257−, 5,289+ and 11,197+. The last mentioned factorization finished the cofactor left by N. Daminelli on Page 88.

A. Kruppa factored the "More Wanted" number 3,404+. P. Zimmermann used the Elliptic Curve Method to factor the "More Wanted" number 7,233−.

The four remaining numbers on the third edition "Most Wanted" list are all being factored now and should appear on Page 90. Therefore, new wanted lists are issued now with Page 89.

No "Smaller-but Needed" number were factored on Page 89. Get to work, guys!

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, 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 new group for factorers lead by Jeff Gilchrist, Don Leclair, Paul Leyland and Richard Wackerbarth and with contributions from many volunteer workers. See the 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 factorization of 2,809− was a champion for SNFS by size and also by difficulty. The P51 factor of 10,211− was a new champion (second place) for ECM.

The number 2,809− had been the smallest Mersenne number with no known prime divisor. Its replacement in that category is 2,971−.

The first holes done on Page 89 are in # 4726, # 4729, # 4732, # 4736, # 4766, # 4767 and # 4775. No second or fourth holes were done on Page 89. The only third hole done on Page 89 is in # 4759. The only fifth hole done on Page 89 is in # 4777.

The smallest new factors reported on Page 89 have 34 digits. See # 4750 and # 4762. The largest number factored on Page 89 has 347 digits. See # 4776.

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.

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`

If your address changes, please tell me.

Keep the factors coming!

Sam Wagstaff