Department of Computer Sciences
Purdue University
West Lafayette, IN 47907
October 31, 2003

Several "Wanted" numbers were factored on Page 91, all by the Number Field Sieve. From the third edition wanted lists, Dodson, A. K. Lenstra, Leyland and CWI factored the "Most Wanted" number 10,223−, finishing that list.

From the wanted lists issued with Page 89 last March, Aoki, Kida, Shimoyama, Sonoda and Ueda of the group CRYPTREC factored the "Most Wanted" number 3,409+ and the "More Wanted" number 3,419+. NFSNET" factored the "Most Wanted" number 2,713− and the "More Wanted" number 10,227−.

Sean Irvine has been hard at work factoring "Smaller-but-Needed" numbers. He split 2,1462M and 5,685M.

I have not created new wanted lists yet, but I did add a few more "Smaller-but-Needed" numbers.

CWI means Peter Montgomery and Herman te Riele 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 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 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 P105 factor of 10,223− was a new champion (first place) for largest penultimate factor. The P57 factor of 6,396+ was a new champion (first place) for the Pollard $p-1$ factoring algorithm.

The first holes done on Page 91 are in # 4835, # 4849, # 4852 and # 4855. The only second hole done on Page 91 is in # 4850. The third holes done on Page 91 are in # 4831, # 4832, # 4834 and # 4845. The fourth holes done on Page 91 are in # 4847 and # 4858. No fifth hole was done on Page 91.

The smallest new factor reported on Page 91 has 40 digits. See # 4865. The largest number factored on Page 91 has 282 digits. See # 4836.

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