Department of Computer Sciences Purdue University West Lafayette, IN 47907 December 21, 2005

One "Most Wanted" number from the wanted lists issued with Page 97 was factored on Page 100. Using the Special Number Field Sieve, NFSNET" factored 2,736+.

Five "Most" and six "More Wanted" numbers from the wanted lists issued with Page 99 were factored on Page 100, all with the Special Number Field Sieve. Franke factored 10,226+ and 6,263-. NFSNET" factored 2,719+. Kruppa factored 3,449- and 3,452+. Silverman factored 2,1346L, 2,1366L, 2,1366M and 2,1378M. Kruppa factored 3,461- and Reynolds factored 7,259-.

One "Smaller-but-Needed" number was factored on Page 100. Kruppa factored 3,590+ by the General Number Field Sieve.

New wanted lists are enclosed. I visited John Selfridge recently and he chose the numbers on them. Note that the numbers 2,739-, 2,761- and 2,1402L do not appear on the new lists because they are in the final stages of being factored and will be finished soon.

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 Jeff Gilchrist, Don Leclair, Paul Leyland and Richard Wackerbarth and with contributions from many volunteer workers. See their URL http://www.nfsnet.org.

There were no new champions for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. A list of recent champions is enclosed.

The first holes done on Page 100 are in # 5271, # 5272, # 5275 # 5279, # 5285, # 5289, # 5294, # 5295, # 5296 # 5297, # 5302 and # 5307. The second holes done on Page 100 are in # 5276 and # 5303. No third or fifth hole was done on Page 100. The fourth holes done on Page 100 are in # 5282 and # 5286.

The smallest new factor reported on Page 100 has 43 digits. See # 5308. The largest number factored on Page 100 has 302 digits. See # 5305.

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.

Please tell me if your address is wrong.

Keep the factors coming!

Sam Wagstaff