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January 7, 1998

Many 'Wanted' numbers were factored on Page 77. From the old lists in Update 2.A, the group NFSNET factored the 'Most Wanted' numbers 7,199- and 2,569-, both with the Number Field Sieve. From the new lists mailed with Page 76, the same group factored the 'Most Wanted' number 3,347+ and the 'More Wanted' number 2,1006L, with the Number Field Sieve. The group CWI factored the 'Most Wanted' numbers 10,167+, 10,169-, 2,556+ and 2,569+ and the 'More Wanted' numbers 10,169+, 10,172+ and 2,568+, all with the Number Field Sieve. The same group factored the 'More Wanted' number 10,187- with the Elliptic Curve Method. New wanted lists will be issued with Update 2.B in a few weeks.

On Page 77, Table 7- joined Tables 3-, 6±, 11± and 12+ in being completed up to the second edition limit.

There were new champions for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. M. Mambo, E. Okamoto and R. Peralta factored 2,1450M C117 by the hypercube Quadratic Sieve, setting a new record for factoring a Cunningham number by QS. There were new champions for Special NFS by size of number factored, those of 12,167+ and 10,172+ by CWI. There also were new champions for Special NFS by SNFS difficulty, namely, 7,199- and 2,569- by NFSNET, and 12,167+ and 10,172+ by CWI. There was a new champion for Hybrid Special/General NFS, the factorization of 2,1155+ by CWI. Finally, CWI found a new champion largest penultimate prime factor (second place), namely, the 75-digit divisor of 12,167+. A list of recent champions and the first holes in each table is given on another sheet.

CWI means Henk Boender, Stefania Cavallar, Marije Elkenbracht-Huizing, Walter Lioen, Peter Montgomery, Herman te Riele and Dik Winter at the Centrum voor Wiskunde en Informatica in Amsterdam. NFSNET is a group which uses NFS and includes Bob Silverman, Peter Montgomery, Marije Elkenbracht-Huizing, Stefania Cavallar, Richard Wackerbarth, me and many volunteer sievers. M+O+P means Masahiko Mambo, Eiji Okamoto and Rene Peralta.

The first holes done on Page 77 are in # 4047, # 4051, # 4059, # 4068, # 4071, # 4074, # 4075, # 4076, # 4077, # 4078, # 4100, # 4101 and # 4102. The second holes done on Page 77 are in # 4079 and # 4108. The only third hole done on Page 77 is in # 4057. The only fourth hole done on Page 77 is in # 4053. The fifth holes done on Page 77 are in # 4097, # 4098 and # 4099.

The smallest new factor reported on Page 77 has 25 digits. See # 4065. The largest number factored on Page 77 has 338 digits. See # 4052.

Gordon Spence used George Woltman's GIMPS program to discover the new Mersenne prime $2^{2976221} - 1$.

I thank Wilfrid Keller for telling me about these two new Fermat factors: Jeff Young discovered that $3 \cdot 2^{213321} + 1$ divides F_{213319} . This is the largest known Fermat divisor. The divisor $681 \cdot 2^{23071} + 1$ of F_{23069} was discovered independently by Patrick Demichel & Yves Gallot and by Tadashi Taura at nearly the same time.

Page 78 is already nearly one-third full; it is enclosed.

If your address changes, please tell me.

Keep the factors coming!

Sam Wagstaff