

Department of Computer Sciences
Purdue University
West Lafayette, IN 47907
July 3, 2017

Eight “Most Wanted” numbers from the wanted lists issued with Page 132 were factored on Page 133. NFS@Home factored 3,619+, 5,424+, 6,389+, 12,277−, 12,274+, 3,619−, 10,302+ and 10,304+, all by the Special Number Field Sieve.

Two “More Wanted” numbers from the wanted lists issued with Page 132 were factored on Page 133. NFS@Home factored 3,631+ and 3,632+, both by the SNFS.

Four “Smaller-but-Needed” numbers from the wanted lists issued with Page 132 were factored on Page 133, all by the General Number Field Sieve. NFS@Home factored 6,460+, 7,373−, 11,671M and 10,325+.

New wanted lists are enclosed.

NFS@Home is a group led by Greg Childers. yoyo@home is a distributed group in Germany.

There was one new champion for factoring Cunningham numbers on this page. Recall that a champion is one of the best two records in its class. The number 10,302+ C289 in # 6409 was the champion (second place) for largest penultimate factor. A list of recent champions is enclosed.

On Page 133 the last Cunningham number $b^n \pm 1$ with $b^n \leq 10^{300}$ was factored. It was 3,619− c207 in # 6408.

The first holes factored on Page 133 are in # 6400, # 6403, # 6404, # 6405, # 6407, # 6408, # 6409, # 6411, # 6412, # 6413, and # 6415. No second, third or fifth hole was factored on Page 133. The only fourth hole factored on Page 133 is in # 6395.

The smallest new factor reported on Page 133 has 61 digits. See # 6397. The largest number factored on Page 133 has 289 digits. See # 6409.

See the URL <http://www.prothsearch.net/fermat.html> for a list of all known Fermat factors. Several new factors were found since the last page.

No new Mersenne prime was found since the last page. The current largest known prime is still $2^{74207281} - 1$. See the URL <http://primes.utm.edu/primes/> for Chris Caldwell’s database of the largest known primes (updated hourly).

See the URL <http://homes.cerias.purdue.edu/~ssw/cun/index.html> for the online Cunningham book.

Please send me any address changes.

Keep the factors coming!

Sam Wagstaff