THREE NEW FACTORS OF FERMAT NUMBERS

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Abstract

We report the discovery of a new factor for each of the Fermat numbers F_{13}, F_{15}, F_{16}. These new factors have 27, 33 and 27 decimal digits respectively. Each factor was found by the elliptic curve method. After division by the new factors and previously known factors, the remaining cofactors are seen to be composite numbers with 2391, 9808 and 19694 decimal digits respectively.

Comments

Only the Abstract is given here. The full paper appeared as [2]. A preliminary version (with two factors and three authors) appeared as [1].

References

[1] R. P. Brent, R. E. Crandall and K. Dilcher, em Two new factors of Fermat numbers, Technical Report TR-CS-97-11, CSL, ANU, May 1997, 7 pp. rpb175tr

[2] R. P. Brent, R. E. Crandall, K. Dilcher and C. Van Halewyn, "Three new factors of Fermat numbers", *Mathematics of Computation* S 0025-5718(00)01207-2 (published electronically 1 March 2000). rpb175.

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