Hence infinite F-sequences can only exist in simple fields. However, the converse does not hold, there are simple fields that do not contain infinite F-sequences (see [3], [4]).

Proof of Theorem 2. It is well-known that the class number of K equals the number of equivalence-classes among the ideals of norm not exceeding $C_K\sqrt{|d|}$. Hence it is enough to show that every ideal $\boldsymbol{m}$, with norm m not exceeding $[C_K\sqrt{|d|}]$ is principal if $m(K) > C_K\sqrt{|d|}$. Suppose that $m(K) > [C_K\sqrt{|d|}]$, i.e. since $[C_K\sqrt{|d|}] \geqslant m$ and every initial segment of an F-sequence is an F-sequence there is an F-sequence, say $\langle a_1, a_2, \ldots, a_m, a_{m+1}\rangle$, of length $m+1$. By the definition of F-sequences there exists one $a_i \neq a_{m+1}$ such that $a_i \equiv a_{m+1} (\mathrm{mod}\, \boldsymbol{m})$. Hence $(a_i - a_{m+1}) = \boldsymbol{m}\cdot\boldsymbol{h}$ and

$$|N(a_i - a_{m+1})| = N(\boldsymbol{m})\cdot N(\boldsymbol{h}) = m\cdot N(\boldsymbol{h}) < \max(i, m+1) = m+1$$

by Theorem 1 and so $\boldsymbol{h} = (1)$ and $(a_i - a_{m+1}) = \boldsymbol{m}\cdot(1) = \boldsymbol{m}$.

This completes the proof.

References

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[1a] — *Erratum*, ibid. 26 (1974), pp. 115–116.

[2] S. Lang, *Algebraic Number Theory*, London 1968.

[3] J. Latham, *On sequences of algebraic integers*, Journ. London Math. Soc. 6 (1973), pp. 555–560.

[4] R. Wasén, *On sequences of algebraic integers in pure extensions of prime degree*, Coll. Math. 30 (1974), pp. 89–104.

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Corrections to the paper "Quasiperfect numbers"

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by

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1. Replace lines 21–24 on page 443 namely "Thus if $3^4 5^6 17^2 q^2 r^2 \ldots$ and N would not be QP" by the following:

Thus if $N = 3^4 5^6 17^2 q^2 r^2$ is QP, both q and r must be greater than 120. For, if $q < 120$, then

$$\frac{\sigma(Mq^2)}{Mq^2} > \frac{\sigma(M)}{M}\left(1+\frac{1}{q}\right) > 2$$

and so by Proposition 0, no non-trivial multiple of Mq^2 can be a QP; so that N cannot be a QP.

2. Replace the penultimate sentence on page 443 "But $\sigma(239^2) \equiv 0 \,(\mathrm{mod}\, 29) \ldots$ disallowed by Proposition 0" by the following:

If $N = 3^4 5^6 17^2 239^2 r^2$, then $2 < \frac{\sigma(M)}{M}\cdot\frac{239}{238}\cdot\frac{r}{r-1}$; which gives

$$1 - \frac{1}{r} < \frac{173398815623}{174104437500},$$

from which it follows that $r < 247$. Since r is a prime, $r = 241$. This cannot hold, since the exponent on 241 must be at least 4, by Lemma 4A(f).

3. Replace p^2 in line 1 on page 444 by 17^2.

4. Replace "$\sigma(N) \equiv 2 \,(\mathrm{mod}\, 3)$", in line 16 on page 444 by "$\sigma(N) \equiv 0$ or $2 \,(\mathrm{mod}\, 3)$, which cannot hold, since $\sigma(N) = 2N+1 \equiv 1 \,(\mathrm{mod}\, 3)$".

5. Replace "$\sigma(N) \equiv 2 \,(\mathrm{mod}\, 3)$" in line 9 on page 445 by "$\sigma(N) \equiv 0$ or $2 \,(\mathrm{mod}\, 3)$, which cannot hold, since $\sigma(N) = 2N+1 \equiv 1 \,(\mathrm{mod}\, 3)$".

6. Replace "pseudoperfect numbers" in line 17 on page 447 by "almost-perfect numbers" (for definition of these numbers, we refer to the paper entitled "Perfect transfinite numbers" by P. Zvengrowski published in Fundamenta Mathematicae 52 (1963), pp. 123–128).

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