

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  $C_K \sqrt{|\bar{d}|}$ . Hence it is enough to show that every ideal  $\mathfrak{m}$ , with norm  $m$  not exceeding  $[C_K \sqrt{|\bar{d}|}]$  is principal if  $m(K) > C_K \sqrt{|\bar{d}|}$ . Suppose that  $m(K) > [C_K \sqrt{|\bar{d}|}]$ , i.e. since  $[C_K \sqrt{|\bar{d}|}] \geq m$  and every initial segment of an  $F$ -sequence is an  $F$ -sequence there is an  $F$ -sequence, say  $\langle a_1, a_2, \dots, a_m, a_{m+1} \rangle$ , of length  $m+1$ . By the definition of  $F$ -sequences there exists one  $a_i \neq a_{m+1}$  such that  $a_i \equiv a_{m+1} \pmod{\mathfrak{m}}$ . Hence  $(a_i - a_{m+1}) = \mathfrak{m} \cdot \mathfrak{h}$  and

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

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

This completes the proof.

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 [1a] — *Erratum*, ibid. 26 (1974), pp. 115-116.  
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 [3] J. Latham, *On sequences of algebraic integers*, Journ. London Math. Soc. 6 (1973), pp. 555-560.  
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(635)

### Corrections to the paper "Quasiperfect numbers"

Acta Arithmetica 22(1973), pp. 439-447

by

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1. Replace lines 21-24 on page 443 namely "Thus if  $3^{45} 17^2 q^2 r^2 \dots$  and  $N$  would not be QP" by the following:

Thus if  $N = 3^{45} 17^2 q^2 r^2$  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  $\sigma(239^2) \equiv 0 \pmod{29} \dots$  disallowed by Proposition 0" by the following:

If  $N = 3^{45} 17^2 239^2 r^2$ , 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 " $\sigma(N) \equiv 2 \pmod{3}$ ", in line 16 on page 444 by " $\sigma(N) \equiv 0$  or  $2 \pmod{3}$ ", which cannot hold, since  $\sigma(N) = 2N+1 \equiv 1 \pmod{3}$ ".

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



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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