10[F].—JOSEPH B. MUSKAT, *On Divisors of Odd Perfect Numbers*, proof of a pertinent theorem printed by a computer on 14 sheets and deposited in the UMT file.

This is the proof that includes and extends Muskat's Table 2 printed elsewhere in this issue of *Mathematics of Computation*. The entire proof, as given here, comprises approximately 650 lines, the first 44 of which are listed in Table 2.

Many questions concerning optimization would occur to interested parties. For example, in line 5 of Table 2 one finds the factors $5827 \cdot 6073$. The program selects 6073, and finds a contradiction in four lines. But suppose it chose 5827 instead? Presumably, a whole tree could be traced out, and the minimal branches then be selected. More subtle problems, involving the ordering of the primes, are also apparent. On the other hand, a quite simple redundancy is noted in the given proof. Thus, that proof examines the cases $\sigma(19^8)$, $\sigma(3^8)$, $\sigma(3^{14})$, $\sigma(3^{20})$, etc. These are not needed; the only non-redundant powers $\sigma(p^b)$ being those where $b + 1$ is a prime. The author does eliminate the cases $b = 2m + 1$, as he indicates in his text, and no doubt he knew of the existing redundancies also, but preferred not to complicate the program for the small savings possible.

D. S.

11[F, X].—A. YA. KHINTCHINE, *Continued Fractions*, Noordhoff, Groningen, 1963, Translated by P. WYNN, 101 pp., 23 cm. Price Dfl. 16.25.

12[F, X].—A. YA. KHINCHIN, *Continued Fractions*, University of Chicago, Chicago, Illinois, 1964. Translation edited by H. EAGLE, xii + 95 pp., 21 cm. Price \$5.00.

Khintchine's classic is concerned with regular continued fractions, that is:

$$x = a_0 + \frac{1}{a_1 +} \frac{1}{a_2 +} \frac{1}{a_3 +} \cdots \tag{1}$$

with the a_i positive integers ($i \geqq 1$), with their use in representing real numbers, and with their "metric theory". These two translations into English appeared almost simultaneously. To compare the two, let us start with a paragraph from the first preface (1935).

Wynn writes:

"The main aim of this book is to close the gap in our literature described above; thus it is of necessity elementary and as compact as possible. By this reason its *style* is determined. Against this, its *content* slightly exceeds that which is absolutely necessary for the various applications. This is true above all with regard to the last chapter which is concerned with the fundamentals of the metric (or probability-theoretic) application of continued fractions. We are concerned here with an important new chapter which is virtually the exclusive creation of Soviet scientists. Many parts of Chapter II also go beyond the mentioned minimum, since I wished to discuss the fundamental rôle which continued fractions play in the investigation of irrational numbers, in as much detail as is possible within the framework of such an elementary introduction. If the theory of continued fractions is to be the subject of a special book, then it would seem to me futile to omit the very topics and interconnections of this theory which at the present time most occupy scientific thinkers."