2. KOKI TAKAHASHI & MASAAKI SIBUYA, *The Decimal and Octal Digits of* $\sqrt{n}$, reviewed in *Math. Comp.*, v. 21, 1967, pp. 259–260, UMT 18.
3. M. LAL, *Expansion of* $\sqrt{3}$ *to* 19600 *Decimals*, reviewed in *Math. Comp.*, v. 21, 1967, p. 731, UMT 84.
4. M. LAL, *First* 39000 *Decimal Digits of* $\sqrt{2}$, reviewed in *Math. Comp.*, v. 22, 1968, p. 226, UMT 12.

23 [9].—MOHAN LAL & JAMES DAWE, *Tables of Solutions of the Diophantine Equation* $x^2 + y^2 + z^2 = k^2$, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, February 1967, xiii + 60 pp., 28 cm. Price $7.50.

Table 3 of this attractively printed and bound volume lists all integral solutions of

$$x^2 + y^2 + z^2 = k^2 \qquad (0 < x \leqq y \leqq z) \tag{1}$$

for $k = 3(2)381$. The brief introduction points out that F. L. Miksa published such a table to $k = 207$, but neglects to mention that he also extended this himself to $k = 325$ [1]. The present extension does not, therefore, constitute a large increase in the upper limit for k, but since the number of solutions of (1) is roughly proportional to k, the number of listed solutions is increased over [1] by a somewhat larger factor.

The imprimitive solutions—those where x, y, z, and k all have a common divisor >1—are marked with an asterisk. (In [1] this was done only for $k > 207$.)

Table 1 lists the number of solutions for each k, and Table 2 lists the number of primitive solutions. (In [1], this data was not given.) The introduction makes no reference to theoretical treatments of the numbers in Tables 1, 2, cf. [2], nor are any empirical observations made concerning these numbers. It is quite convincing, however, from a brief examination of these results, and without reference to the theory, that if k is a prime of the form $8n \pm 1$ or $8n \pm 5$, then there are exactly n solutions, all of which, of course, are primitive.

The introduction points out that none of the listed solutions of (1) are of the form

$$x^4 + y^4 + z^4 = k^4, \tag{2}$$

and this proves that (2) has no solutions for $k < 20$. But M. Ward had already proved that result for $k \leqq 10^4$, and recently [3] this was extended to $k \leqq 22 \cdot 10^4$.

D. S.

1. FRANCIS L. MIKSA, "A table of integral solutions of $A^2 + B^2 + C^2 = R^2$, etc.," UMT 82, *MTAC*, v. 9, 1955, p. 197.
2. LEONARD EUGENE DICKSON, *History of the Theory of Numbers*, Volume II, Chapter VII, Stechert, New York, 1934.
3. L. J. LANDER, T. R. PARKIN & J. L. SELFRIDGE, "A survey of equal sums of like powers," *Math. Comp.*, v. 21, 1967, p. 446.

24 [12, 13.35].—J. HARTMANIS & R. E. STEARNS, *Algebraic Structure Theory of Sequential Machines*, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1966, viii + 211 pp., 23 cm. Price $9.00.

This excellent little book brings together in one place most known results on the algebraic structure theory of sequential machines. By a structure theory for sequential machines the authors mean "an organized body of techniques and results which deal with the problems of how sequential machines can be realized from