should read "proposition 43"; p. 116, line 6, $(\mu/\ )$ should read $(\mu/2)$; p. 123, line 12, "$(jm+km'+i(m'+j-1)m+Km'+j+1)$" should read "$(jm+km'+i\ (m'+j-1)m+km'+j+1)$." There are too many substitutions given with the spacing not clear to enumerate them all. We content ourselves with a general warning on this point.

A. W. JONES

An index of mathematical tables. By A. Fletcher, J. C. P. Miller, and L. Rosenhead. New York, McGraw-Hill; London, Scientific Computing Service, 1946. 8+451 pp. $16.00.

The compilation of this index of tables has been achieved by a tremendous outlay of painstaking work over a period of many years. Many tables of value have appeared in scientific and engineering articles and bringing these to light constitutes by itself a most valuable endeavor. The material is listed according to functions, there being twenty-four sections of which two, for example, are logarithms of trigonometrical functions and Gamma function psi function, Polygamma function, Beta function, Incomplete gamma and Beta functions. There are also sections devoted to primes, binomial coefficients, Bernouilli numbers, mathematical constants, and so on.

The authors have indicated with each table the number of decimals, the range of the argument and the intervals of tabulation, the facilities for interpolation (that is, whether first or second differences are given), and the authorship with date. For example, under §21.31—Incomplete elliptic integrals of the first and second kinds—we find that $F(\theta, \phi)$ and $E(\theta, \phi)$ were tabulated as follows:

12dec. $\theta = 0(1°)90°$ $\phi = 45°$ Δ^5 or Δ^6 Legendre 1816, 1826.

Similarly, under Bernouilli numbers the entries for exact values for B_n begin with: $n=1(1)5$ Bernouilli (1713) and continue with some 30 other tables.

There is a 70 page bibliography and an introduction in which the authors describe in detail the interpretation to be given to their notations and remarks.

E. R. LORCH

Tables of the Bessel functions of the first kind of orders zero, one, two, and three. (The Annals of the Computation Laboratory of Harvard University, vols. 3–4.) Cambridge, Harvard University Press; London, Oxford University Press, 1947. $20.00.

With the help of the automatic sequence controlled calculator, the

Computation Laboratory of Harvard University has prepared these tables of certain Bessel functions. The functions here given are $J_n(x)$, $n=0$, 1, 2, and 3. It is hoped to publish, during the coming years, tables for integral values of n ranging up to 100. In the present volumes the functions are given to 18 figures. For the range $0<x<25$, tabulation was carried out with the interval of the argument equal to 0.001. For $25<x<100$ the argument interval is 0.01. The computer originally gave the results to 23 places which were then rounded off to 18 for publication. Various checks such as differencing devices and comparison with older tables suggest that the probability of correctness of these values to 3 units in the 23rd place is very high.

E. R. LORCH

Table des solutions de la congruence $x^4+1\equiv 0$ (mod. p) *pour* 350.000 $<p<$500.000. By A. Gloden. Luxembourg, 1946. 40 pp. 50 fr.

The congruence $x^4+1\equiv 0(p)$ has solutions only for primes of the form $p=8k+1$. For such primes one solves the two congruences $l^2+1\equiv 0(p)$ and $2m^2+1\equiv 0(p)$ and then the four roots of the original congruence are $m(l\pm 1)$, $-m(l\pm 1)$. The author tabulates here the two smaller of these roots for primes ranging from 350,000 to 500,000. For $p<350{,}000$ the results have been compiled by other computers. One of the applications of these tables is to the factorization of numbers of the form x^4+1.

E. R. LORCH

Tables of spherical Bessel functions. Vol. 1. Prepared by the Mathematical Tables Project, National Bureau of Standards. New York, Columbia University Press, 1947. 28+379 pp. $7.50.

The Mathematical Tables Project presents here tables of the Bessel functions of order $n+1/2$ where n is an integer. More precisely, it is the functions $(\pi/2x)^{1/2}J_{n+1/2}(x)$ which are tabulated. These functions arise in the separation of the wave equation for certain types of coordinate systems. Strangely enough, no adequate tables had been available previous to this publication. We have here 28 tables corresponding to $n+1/2=\pm 1/2, \pm 3/2, \cdots, \pm 27/2$. The entries are given to 8, 9, or 10 significant figures for $x\leqq 10$ and to 7 figures for $x>10$. The argument range is $0<x<10$ in intervals of 0.01 and $10<x<25$ in intervals of 0.1. Second central differences are also tabulated except near $x=0$.

E. R. LORCH