the equation

$$y'' - \frac{2 \sin x}{\sin x - \cos x} y' + \frac{\sin x + \cos x}{\sin x - \cos x} y = 0,$$

of which the general solution is

$$y = c_1 e^x + c_2 \sin x.$$

Here the coefficients have poles but the general solution is an entire function. Such equations of the second order are readily formed in unlimited number by determining each one so as to have two entire functions as particular integrals, these entire functions being chosen so that their real zeros do not separate each other. This fact is an immediate corollary of Sturm's zero-separation theorem.

R. D. CARMICHAEL.

Elementi di Aritmetica, con note storiche e numerose questioni varie per le scuole medie superiori, Parte prima: *Numeri interi—Operazioni, divisibilità, numeri primi.* (Third edition, Trimarchi, Palermo, 1916. vi + 134 pp. Fourth edition, 1918. 132 pp.) By Professor GAETANO FAZZARI, of Palermo. Price, L 1.60.

THIS arithmetic includes, as is common in European texts, much algebraic material. Thus discussion of such topics as the laws of commutation and association, and the euclidean process of finding G.C.D. appear. The fundamental operations of arithmetic are discussed both from the elementary point of view and from that of the higher mathematics.

The Hindu method of "multiplication in one line," by obtaining successively those products which contain units, tens, hundreds, $\cdots$, is explained. Division by use of the complement, frequently a convenient method, is given, illustrated by the division of 47830219 by 68947. The process is as follows, and may be regarded as division by 100000 − 31053.

```
                  31053
47830219 :        68947
186318            -----
-------             693
6646201
 279477
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9256789
  93159
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 349948
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