Page 133, in Exercise 1, after ". . . consists of" insert "the group represented by E repeated 60 times."
" 138, footnote. Replace 6° by 7°.
" 182, line 20. The second of the set of numbers given, namely 6, should be 3.
" 182. At end of footnote marked * write: Jordan's method is to express suitable powers of the solutions of the linear differential equation as rational functions of x and of all the roots of a certain algebraic equation. The degree of this equation will then generally be lower than the corresponding degree found above. See *Crelle*, vol. 84, pp. 93, 112.

H. F. BLICHFELDT.

REMARKS ON ELLIPTIC INTEGRALS.

IT is known that an elliptic integral of the first kind is everywhere one-valued, finite, and continuous on its associated Riemann surface, while the elliptic integral of the second kind is algebraically infinite, and the elliptic integral of the third kind is logarithmically infinite at certain points of the surface. This is a characteristic distinction of these integrals and is essential in their study. It is also true of the hyperelliptic and abelian integrals.

The Legendre form of the integral of the first kind is

$$F(k, \varphi) = \int_0^\phi \frac{d\varphi}{\sqrt{1 - k^2 \sin^2 \varphi}}.$$

When $k = 1$, this integral becomes

$$F(1, \varphi) = \int_0^\phi \frac{d\varphi}{\cos \varphi} = \log \tan\left(\frac{\pi}{4} + \frac{\varphi}{2}\right).$$

If further $\varphi = \frac{1}{2}\pi$, it is seen that the complete elliptic integral

$$F_1(1) = F\left(1, \frac{\pi}{2}\right)$$

is logarithmically infinite, while $F_1(0) = \pi/2$.

As this is the only possible chance, remote though it be, for an integral of the first kind "to claim kin" with one of the third kind, I don't see why a gentleman from Alabama, where relationships are cherished, the connection often being even more remote, should suffer a "jolt" (see the BULLETIN, February, 1918, page 253) when I write "F_1 increases from $\pi/2$ to logarithmic infinity."

I am glad, however, that the "logarithmic" injection left him so dazed that he did not notice the glaring error found a few pages farther on in the monograph on Elliptic Integrals. I take this opportunity of correcting it. On page 33, line 12 below, is found "in the formulas $\operatorname{sn} iu = i \operatorname{tn}(u, k')$, etc., write $u + iK$ for u." This obviously should be "write $u + K'$ for u" with the resulting fundamental formula

$$\operatorname{cn}(iu + iK', k) = -\frac{1}{k}\frac{\operatorname{dn}(u, k')}{\operatorname{sn}(u, k')}.$$

This is found correctly given in my larger book, page 464, and follows at once from formulas (XIX) and (XVII) of pages 248 and 247 of that work. The formula is also correctly derived in two different ways in my lecture notes, from which I thought the monograph was taken. This leads me to suggest that an author be allowed one bad mistake for every 100 pages, the same to be classified under the heading "inexplicables, lapses, aberrations, etc."

May I also add that in my lectures the pronoun "we" without intentionally implying anything personal is perhaps too frequently used? At any rate one of the editors of the monograph in question thought this to be the case. To oblige him the other editor and I suppressed some of the "we's" and it appears that we did not make other corresponding changes in at least two places. Thus two infelicitous "grammatical connections" remain. I am obliged to Professor Carmichael for not characterizing them more harshly.

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SHORTER NOTICES.

Differential Calculus. By H. B. PHILLIPS. New York, Wiley, 1916. 162 pp.

Integral Calculus. By H. B. PHILLIPS. New York, Wiley, 1917. 194 pp.

To expound a few central methods and apply them to a large variety of examples to the end that the student may learn