$$R = R_z + R_{\bar z} = a_{1,0} + a_{0,1}.$$

In conclusion it should be stated that $R_{\bar z}$ is the negative of $\overline{R}$ defined in the article in the Transactions (loc. cit.); this change is also carried over into the definition for the total residue. The reason for this change is partly evident in the results just obtained; then this change of sign brings $R_{\bar z}$ into accord with the mean derivative and the circulation theorem (4′). Also a slight change in the proof of Theorem 1 for R_z will establish the theorem for $R_{\bar z}$.

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NOTE ON A MERSENNE NUMBER

BY R. E. POWERS

I have recently determined by the computation of Lucas' series 4, 14, 194, · · · *that the number $N = 2^{241} - 1$ is composite, since the 240th term of the series is congruent to

$$-\ 98\ 6778335538\ 8807227981\ 3604528486\ 9326522489\ 7467133466\ 0099172867\ 1619979800 \pmod{N}.$$

This term would be zero if N were prime.

The square of each term was obtained by means of a computing machine, D. N. Lehmer's *cross-multiplication*† being used; and these squares, diminished by 2, were divided by N by hand, with the aid of a table of the 1000 multiples of N: N, $2N$, $3N$, · · · , $1000N$, the quotients being thus obtained three or more digits at a time, and the computation was checked throughout by the four moduli 9, 10^3+1, 10^4+1, and 10^7+1.

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* This Bulletin, vol. 38 (1932), p. 383.

† American Mathematical Monthly, vol. 30 (1923), p. 67, and vol. 33 (1926), p. 199.