

Kellogg's note gives a simple proof that if this set is closed with respect to continuous functions, it is also closed with respect to summable functions which are not null functions. Hilbert and others have shown that they are closed with respect to continuous functions, and they are therefore closed with respect to the broader class. The interest of the note lies rather in the method of proof than in the results, which are largely already known.

20. In this note Professor Moore discusses the forms of curves that will generate surfaces of constant curvature when rotated by the special rotations leaving a doubly infinite number of planes invariant.

21. In an article in the *Mathematische Abhandlungen* of the Berlin Academy for the year 1857, pages 41-74, Kummer essayed to prove that the relation

$$(1) \quad x^p + y^p + z^p = 0$$

could not be satisfied in integers, when p is an odd prime not satisfying three given conditions. Based on this result, the conclusion that (1) is impossible for all p 's less than 100 was derived by him. In the present paper Mr. Vandiver points out that Kummer made several errors in his argument, which vitiate his results. The paper will appear in the *Proceedings of the National Academy of Sciences*.

F. N. COLE,
Secretary.

STIELTJES DERIVATIVES.

BY PROFESSOR P. J. DANIELL.

THE fundamental theorem for the derivative with respect to a function of limited variation is difficult to prove in the case of several dimensions, and no attempt is made here to consider the most general derived numbers. In place of the method used by the author for one dimension we shall use methods and ideas due to C. de la Vallée Poussin and W. H. Young.*

* C. de la Vallée Poussin, *Intégrales de Lebesgue*. Paris, 1916, pp. 61-73. W. H. Young, *Proc. London Math. Society* (1914), vol. 13, p. 109. P. J. Daniell, *Transactions Amer. Math. Society* (1918), vol. 19, p. 353.