

*Vorlesungen über Zahlentheorie*, by Edmund Landau, Volume I: *Aus der elementaren und additiven Zahlentheorie*, xii + 360 pp.; Volume II: *Aus der analytischen und geometrischen Zahlentheorie*, vii + 308 pp.; Volume III: *Aus der algebraischen Zahlentheorie und über die Fermatsche Vermutung*, vii + 341 pp.; Leipzig, S. Hirzel, 1927

These three excellently printed and arranged volumes form an addition of the highest importance to the literature of the theory of numbers. With them, the reader familiar with the basic elements of the theory of functions of a real and complex variable, can follow many of the astonishing recent advances in this fascinating field. His interest is enlisted at once and sustained by the accuracy, skill, and enthusiasm with which Landau marshals the analytic facts and simplifies as far as possible the inevitable mass of details.

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The main purpose of this part is to develop as much of the theory of ideals which is necessary to establish the known results concerning Fermat's famous conjecture that the equation

$$x^n + y^n = z^n$$

has no integral solution  $x, y, z$  with  $xyz \neq 0$  for  $n > 2$ . In particular the proof of Kummer's theorem that the conjecture holds for  $n = p$ , a regular prime, is given in full. The concluding part deals with some recent results of Furtwängler (1912), Wieferich (1909), Mirimanoff (1910), and Vandiver (1914, 1919).

The mathematical world owes a great debt of gratitude to Professor Landau for rendering accessible so many of the recent splendid achievements in the theory of numbers.

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