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**Elliptic curves. Function theory, geometry, arithmetic.**

Cambridge University Press, Cambridge (ISBN 0-521-58228-8). 293 p. (1997).

The subject of elliptic curves is one of the jewels of nineteenth-century mathematics, originated by Abel, Gauss, Jacobi, and Legendre. This book presents an introductory account of the subject in the style of the original discoverers, with references to and comments about more recent and modern developments. The treatment combines three of the fundamental themes of mathematics: complex function theory, geometry, and arithmetic. After an informal preparatory chapter on rational functions, Riemann surfaces, and the like, the book follows a historical path, beginning with practical examples of elliptic integrals and the discovery of Abel and Gauss that the inversion of such an integral yields an elliptic function. This is followed by chapters on Jacobi's theta functions, modular groups and modular functions, Abel's and Hermite's work on the quintic, Kronecker and Weber's imaginary quadratic field, and the Mordell-Weil theorem on the rational points of elliptic curves. (orig.)

*Classification:* F65

*Keywords:* elliptic functions; elliptic integrals; modular functions; modular groups; theta functions; icosahedron; quintic equation; imaginary quadratic number fields