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Number theory through inquiry.

MAA Textbook. Washington, DC: Mathematical Association of America (MAA) (ISBN 978-0-883-85751-9/hbk). ix, 140 p. (2008).

Heuristic techniques were always applicable to number theory: the above argument gets stronger with the publication of this book divided into eleven chapters. Chapter 0 is most interesting because it includes comments on the relation between number theory and mathematical thinking. The remaining ten chapters deal with important issues in number theory such as divisibility, prime numbers, congruences, Fermat's little theorem and Euler's theorem, applications of cryptography, Diophantine equations and primality tests. All these issues are originally developed with an autonomous way of thinking by the authors and this effort is concluded with a note on mathematical induction.

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Classification: F65 D45 C35

Keywords: number theory; mathematical thinking; primality; cryptography; divisibility; Diophantine equations; inquiry based learning; guided discovery; modified Moore method; mathematical thinking; university teaching ; teaching methods