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Number theory through inquiry.

Washington, DC: The Mathematical Association of America (MAA) (ISBN 978-0-88385-751-9/hbk). ix, 140 p. (2007).

“Number Theory Through Inquiry” is an innovative textbook that leads students on a guided discovery of introductory number theory. The book succeeds to help students develop mathematical thinking skills, theorem-proving skills and also helps students to understand some of the wonderfully rich ideas in the mathematical study of numbers. This book is appropriate for a proof transitions course, for an independent study experience, or for a course designed as an introduction to abstract mathematics. Mathematics or related majors, future teachers, and students or adults interested in exploring mathematical ideas on their own will enjoy “Number Theory Through Inquiry”. The book contains a carefully arranged sequence of challenges that lead students to discover ideas about numbers and to discover methods of proof on their own. It is designed to be used with an instructional technique variously called guided discovery or Modified Moore Method or Inquiry Based Learning (IBL). The result of this approach will be that students: – Learn to think independently – Learn to depend on their own reasoning to determine right from wrong – Develop the central, important ideas of introductory number theory on their own. From that experience, they learn that they can personally create important ideas. They develop an attitude of personal reliance and a sense that they can think effectively about difficult problems. These goals are fundamental to the educational enterprise within and beyond mathematics.

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Classification: F65 D45

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