

**ZMATH 2010f.00611**

**Beck, Matthias; Geoghegan, Ross**

**The art of proof. Basic training for deeper mathematics.**

Undergraduate Texts in Mathematics. New York, NY: Springer (ISBN 978-1-4419-7022-0/hbk; 978-1-4419-7023-7/ebook). xxi, 182 p. (2010).

This is an undergraduate text to extend, in a deeper and formal way, the usual initial knowledge of mathematics. The book deals with classical topics like integers, induction, algorithms, real numbers, rational numbers, modular arithmetic, limits, uncountable sets as well as some additional material on functions, cryptography, groups, complex numbers, ordinal numbers, etc. The publication may be useful for people using the book to teach a course on the above mentioned topics. In the chapters the authors develop formal detailed presentations and proofs of each part, they include comments and remarks, hints on questions, proposals for projects, philosophical remarks, etc. The aim behind this textbook is teaching how to read and write mathematics as well as understanding key methods and concepts. *Claudi Alsina (Barcelona)*

*Classification:* E55 A15

*Keywords:* undergraduate text; proof; key mathematical concepts

doi:10.1007/978-1-4419-7023-7