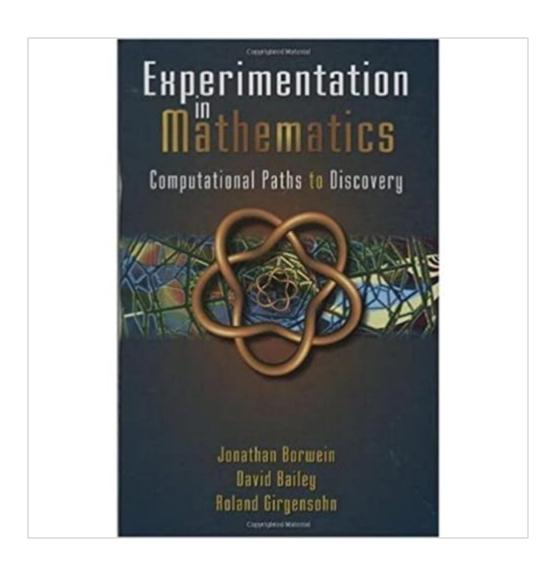**The book was found**

Experimentation In Mathematics: Computational Paths To Discovery

Synopsis

New mathematical insights and rigorous results are often gained through extensive experimentation using numerical examples or graphical images and analyzing them. Today computer experiments are an integral part of doing mathematics. This allows for a more systematic approach to conducting and replicating experiments. The authors address the role of experimental research in the statement of new hypotheses and the discovery of new results that chart the road to future developments. Following the lead of Mathematics by Experiment: Plausible Reasoning in the 21st Century this book gives numerous additional case studies of experimental mathematics in action, ranging from sequences, series, products, integrals, Fourier series, zeta functions, partitions, primes and polynomials. Some advanced numerical techniques are also presented. To get a taste of the material presented in both books view the condensed version.

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The chapters show that often when there are what appear to be pure maths derivations, a context might appear where you can, or perhaps need to, crunch some numbers.There are many problems; some quite challenging. Not all the computations are numerical. Several involve symbolic algebra. The text leaves it to you to use whatever maths packages you prefer.

The collaboration of Jonathan Borwein, David Bailey, and Roland Girgensohn, Experimentation In Mathematics: Computational Paths To Discovery is a scholarly, college and graduate-studies text discussing the role of computer-based experimental research in the formulation of new hypotheses. Extensive equations, advanced numerical techniques, and mathematical experiments explained in meticulous, step-by-step detail reveal the "new paradigm" in mathematic research, in this solid text especially for expert students and field professionals in cutting-edge mathematical studies.

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