SCIENCE & TECHNOLOGY

Mathematics

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The following review appeared in the May 2009 issue of CHOICE:

Borwein, Jonathan. **The computer as crucible: an introduction to experimental mathematics,** by Jonathan Borwein and Keith Devlin. A K Peters, 2009. 158p bibl index afp ISBN 9781568813431 pbk, $29.95

In *The Computer as Crucible*, mathematicians Borwein and Devlin explain how very sophisticated mathematics and very sophisticated computing software can help each other. When starting to work on a mathematical problem, researchers often do not know what it is that they should be attempting to prove. Therefore, they generate a lot of data, but the data usually do not match any preexisting data in the form in which they are found. However, the authors show how some deeply rooted mathematical methods can unleash the available computing power to find the missing links. The authors use a very reader-friendly writing style and provide some breathtaking examples. The depth of the notions and methods used implies that most readers will be graduate students and above. This reviewer's one critical remark is that while the examples are certainly spectacular, they all seem to come from the area of computing limits and sums of sequences and series. A broader scope could have made the book even better. **Summing Up**: Highly recommended. Graduate students, researchers, and faculty. -- *M. Bona, University of Florida*