

BOOK REVIEW

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The IMO Compendium (A Collection of Problems Suggested for the International Mathematical Olympiads: 1959–2004)

By Dušan Djukić, Vladimir Janković, Ivan Matić, and Nikola Petrović, Springer, 2006

ISBN 978-0-387-24299-6, hardcover, 740+xiv pages, US\$79.95

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This book contains all of the problems from the International Mathematical Olympiads (IMOs) from 1959 to 2004, as well as all of the short-listed problems from most of these years, and the long-listed problems from many of these years. In total, it contains a whopping 1900 IMO level problems! Solutions are given for all of the short-listed problems and for the problems that actually appeared on the IMOs. Also, there are 20 pages of briefly stated “useful results”. The sheer size of the task of collecting, solving and type-setting this amount of material is truly mind-boggling, and the authors are to be commended.

While many of the problems do have solutions (about 900 of them), the solutions take up 300 pages of the book, while the 1900 problems take up 300 pages as well. As a result, we found the solutions to be quite terse and difficult to sort through. (In our opinion, this is not unusual for this level of book.) The long-listed problems do not have solutions, but some problems have notes to indicate potential difficulties.

Is this book useful? Yes and no. The IMO problems themselves are available online with some searching. The short-listed and long-listed problems are likely much less widely available, so this book is an excellent resource for these problems. The solutions given are perhaps useful starting places for looking at these problems, but would need a fair amount of extra work to sort out. The book would likely be useful only to a handful of very advanced secondary school students in Canada in any given year. It might be of more use, though, to teachers or professors leading mathematics camps, math circles’ programs for very talented students, or even undergraduate level competitions’ programs. The list of results presented is again probably not that useful to any student for whom the book itself is useful, but might be a good source of suggested topics to an instructor.

An added side benefit of this book, though, is the historical timeline that it gives. This happens in two ways: first, through the trend that can be seen in the increase in difficulty of the problems over the years, and second, through the political history demonstrated by the countries involved over the years, including those that no longer exist and those new countries that have emerged over this period.