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Clarion Review ★★☆☆☆ EDUCATION

My Invitation to Mathematical Problems: Computations, Solutions, Proofs and Insights

Franz Rothe
Stellar Literary Press
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An educational labor of love, My Invitation to Mathematical Problems *reveals the skills involved in understanding a problem's prompts and working toward a solution.*

Mathematician Franz Rothe's reference book *My Invitation to Mathematical Problems* is an insightful collection of problems, proofs, and solutions.

Revealing the process of reviewing and solving problems, this collection includes both humorous and specific paradigms used to reveal the skills involved in understanding a problem's prompts and working toward a solution. Those problems and proofs that have no solutions are accompanied by insights into why that's the case, plus some potential avenues for approach.

Some of the more involved problems and proofs are illustrated using visuals like root trees, formula arrangements broken down according to steps of the solution process, and scale graphs laid out in succession. Not all are sufficiently explained, though; the important terms and concepts involved in them assume extant understanding and place a high bar for entry.

While there is loose grouping around subsets of mathematics—numbers, geometry, and calculus—the challenges are shared with no particular flow beyond their assumed increased levels of difficulty. A few entries refer to previous riddles and problem prompts, but there's a lack of clear progression overall that renders the book somewhat unapproachable.

While some problems are prefaced by narrative illustrations designed to make their work more entertaining, as with the introduction of three greedy pirates who stole a cake and are looking for a way to divide it to satisfy all of their wants, most of the problems and solutions are narrated in a distant, didactic tone. The book also includes some jarring tonal shifts, as with its inclusion of jokes and bizarre stories. For example, a riddle appears in which a boy brags about a special marble that he'll display after solving a complex formula, but his presence is more of a distraction than a clarifying element.

More involving are the book's additions of historical context, such as where it shares background information on particular mathematicians and concepts. Beyond these touches of personality, though, the book rests at the level of a long list of problems and solutions, and its ending is abrupt. Spelling and grammatical errors also plague the text, compromising its credibility—"hugh number" appears often in place of "huge number," for instance; elsewhere, an oracle's answer helps the pirates to calm down a "bid."

Somewhat insular, *My Invitation to Mathematical Problems* is a mathematician's loving collection of solutions (or the lack thereof) to problems that reflect his love of mathematics.

JOHN M. MURRAY (January 14, 2025)

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