Guido Walz

Equations and Inequalities

Plain Text for Non-Mathematicians

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The translation was done with the help of artificial intelligence (machine translation by the service DeepL.com). A subsequent human revision was done primarily in terms of content.

What You Can Find in This *essential*

- Formulas for solving linear and quadratic equations
- Methods for the solution of root and fractional equations
- Strategies for the solution of linear inequalities and fractional inequalities

Introduction

Solving equations is an omnipresent problem when dealing with problems from natural sciences, technology or even economics. It does not necessarily have to be about higher mathematics, even simple equations like linear or quadratic ones can cause problems. These types of equations will be dealt with in the following. It is not just a matter of merely solving them, but also of dealing with equations that at first seem inaccessible, but which, after clever remodelling, turn out to be easily controllable and, above all, solvable. This includes the fractional and root equations, which are treated in the following pages.

Not quite as often as equations, but still often enough one encounters the problem of having to solve an inequality. These are also discussed below, especially linear inequalities and fractional inequalities leading to linear ones.

This booklet will help you by presenting ready-made rules for solving the above equations and inequalities and by giving you the opportunity to practice them using numerous selected examples.

Since the subtitled text is explicitly (also) aimed at non-mathematicians, it is deliberately written in generally understandable language so as not to discourage readers by using excessive technical language; after all, the subtitled text is also supposed to be "plain text." For example, we will speak of "superscripts" instead of "exponents," and likewise of "unknowns" instead of "variables."

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