Building up
MATHEMATICS

8th *Grade*

Basic Education

Teacher's Guide

National
Textbook

NEW CURRICULA

Republic of Lebanon

Ministry of Education and Higher Education

BUILDING UP
MATHEMATICS

Teacher's Guide

Basic Education
Grade Eight

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The National Textbook Project

This is the second installment of textbooks completed by the Center as part of a three-stage effort to produce the books called for by the New Curricula. We are placing these books in the hands of students with the great hope that we are moving, step by step, toward the goal of acquiring sound and modern learning, using sophisticated educational means and up-to-date methodology that encourage and reinforce individual thinking and research, the acquisition of skills, the development of ethical and national attitudes, the feeling of national belonging as well as the feeling of belonging to humanity at large.

The on-going revolution in information, communication and educational technology has undoubtedly limited the role of the textbook and lowered the rank it used so recently to occupy. However, in our society and in many other societies, the textbook remains the basic means of education, and it is our duty to exert our utmost effort and care to come up with the best product as to form and content. Yet we should not lose sight of the fact that the textbook is not sufficient by itself but should rather be used as a stepping stone to access other sources of information. What is important is to keep a clear vision and maintain the right course toward our objective. The means should not turn into the end and the student should always remain the focus of the learning/teaching process.

No one ignores or denies the fact that textbook writing requires very high academic and educational qualifications and very wide field experience. The authors committees undeniably possess such qualifications and qualities, yet last year's textbooks did contain some faults and gaps which were duly pointed out by researchers in many articles, and, indeed, we have benefited from some of them. Such is the nature of human work, no matter how good the intentions or how great the effort exerted.

Constructive criticism is a real contribution to raising the standard of authorship, minimizing errors and filling gaps. We only hope that criticism will always be objective and motivated by a desire to enhance educational reform in order to achieve better products.

A favorite adage handed down from our old scholars: "He who criticizes you is as helpful as a co-author". Let all criticism directed at the Center be of this caliber.

In closing, we hope that we all will have benefited from our experience and that the textbooks of the third and final stage be closer to realizing our hopes and more beneficial to our students. We are now preparing ourselves to assess the parts so far achieved of the new curricula and to assure that our educational movement is proceeding on the right track for achieving the best results.

June 2, 1999

President, National Center for Educational
Research and Development

Nemer FRAYHA

Preface

"We do not narrate mathematics... we construct it..."

We believe that this teaching concept reflects the will to respect the student as a human being; it is no longer a matter of imposing information on him but presenting him with the one he demands. Our main objective in this book is to direct the student to become an information seeker.

Material covered in the following chapters includes:

- The **Introduction,** in which the student is reminded of what he has learned and what he will learn.

- The **Activities:** In this phase, the student is confronted with situations that urge him to pose questions, conclude, and exchange ideas with his classmates and defend them.
  We think that this is the most important phase of using the national textbook.
  The role of the teacher is clearly defined in the Pedagogical Guide.

- The **Text:** This is the phase of systematization where teaching is put into order through the ideas proposed by student groups.

- The **Focus:** This is a place where students can find the main points of the chapter summarized.

- The **Exercises:** Devised to consolidate the already-acquired notions.

- The **Self-evaluation:** A set of questions, put by students, after their acquisition of new material. Answers to the proposed questions are given at the end of the book. At this stage, the student is held responsible for his work. It is only up to him to judge the degree of comprehension of the notions presented so far.

- The **Problems:** Place of relocating the student's new and old acquisitions. It is a wide and varied field of applications.

- **Just for fun:** Place where the posed problems are less classical and more extracurricular. The essential interest is not in the solution of these problems but in the attempts made towards their solution in a lively atmosphere.

At the end of this work, we hope to reach most of the goals that we set for ourselves. Nevertheless, the results depend heavily on how the teachers will use this book.

The authors

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