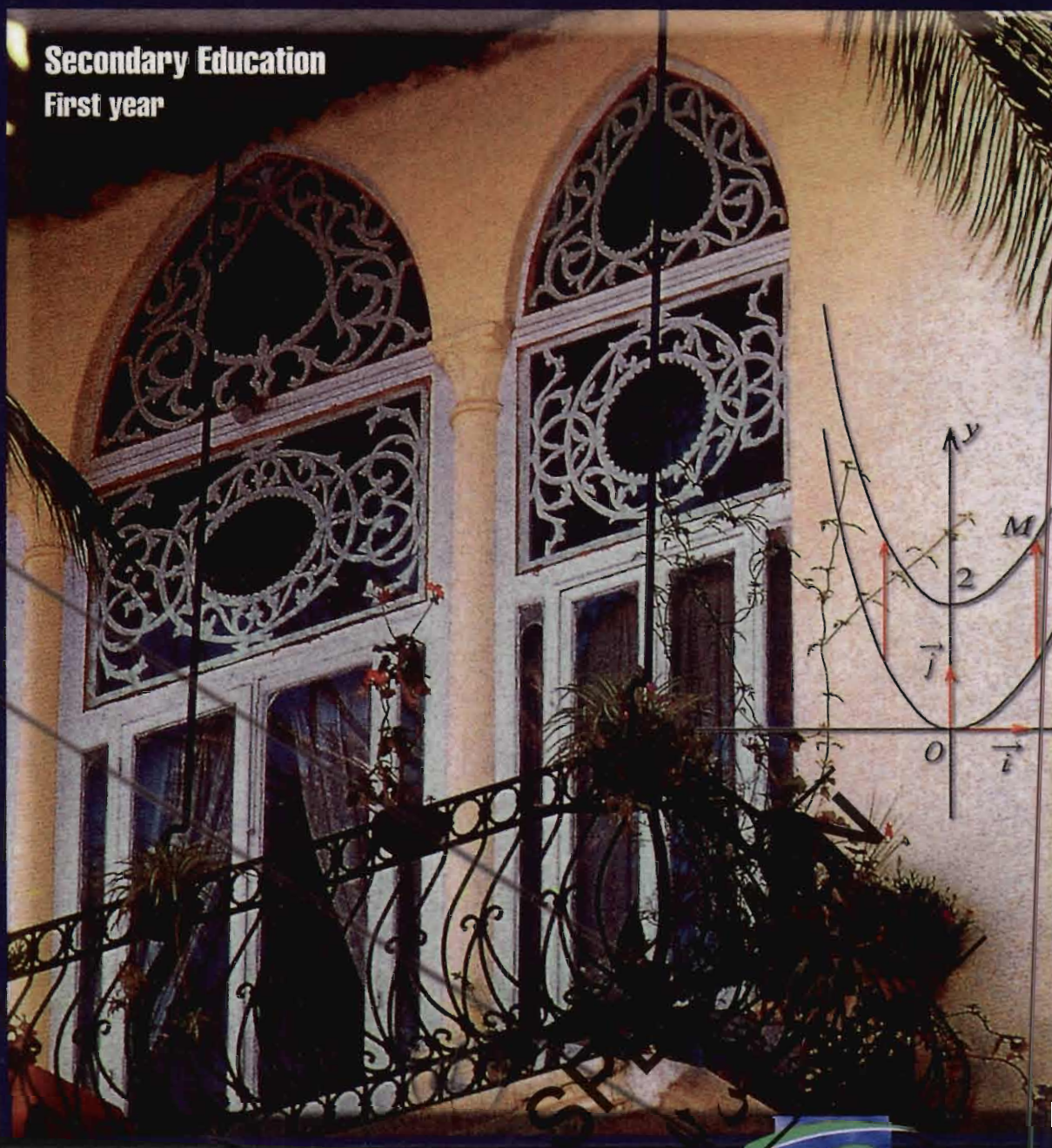
building up MATHEMATICS

Secondary Education
First year



Center for Educational Research and Development
National Textbook
New Curricula

Republic of Lebanon

Ministry of Education and Higher Education

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Secondary Education
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Technical Preparation: Technical Team ■ CERD
Illustrations: Graphics Team ■ CERD
Publishing and Distribution: Educational Company for Printing, Publishing and Distribution S.A.R.L
Printing: Arab Printing Press sal

First Published September 1998
8th impression 2011

INTRODUCTION

This is a new version of the English Mathematics textbook for the First Secondary Year. We found it necessary to make a complete revision of our first edition not only to correct the errors but also to make other necessary modifications in the light of our experience over the last few years.

The corrections embodied in the new edition take care of the errors and also bring the English version more in line with the French original on which it is based.

The modifications in the new version satisfy two main onjectives. The first is general, and falls under the broader policy adopted by the Center for Educational Research and Development (CERD), which requires that all books remain under continuous review and revision, not only to eliminate errors but also to update the content in the light of new educational developments. The second objective is more specific and has to do with the evolution of the school population.

A case in point is statistics. The students entering secondary school in 2001-2002 know more about statistics than their predecessors, because they have already taken statistics in the intermediate grades. Therefore, the chapters on statistics have been modified to fit the students' background and specific needs.

Even more important, perhaps, is that the new version incorporates the recommendations and comments made by the teachers and others who have gone through the first edition.

It is our hope that this new version will more perfectly meet the needs of teachers and students and be of greater benefit to them.

President, CERD
Dr. Leila Maleeha

PREFACE

The **"Building up Mathematics"** collection was created and edited in compliance with the demands of the new program. Here we find: the scientific content, unambiguously detailed and defined; the targeted objectives, controlled and evaluated; and the explicity shown method recommended.

Far from being a dry account of facts, this work is a tool that permits and promotes the active participation of learners. We wanted to create an instructive product suitable for an education based on the balanced and well-defined division of labor between three parties: **the student - the instructor - the administrator.**

The instructor is not only the processor of knowledge but is more the leader of the class; he/she guides it in its choice of orientations, maintains its interest, promotes research among its members, and helps find results while indicating their applications.

At the heart of the educative system is the student, a person with the right to an education worthy of a free individual, independent and seeking knowledge. It is the student who, without feeling forced to put up with the knowledge he/she must learn, should feel constantly faced with situations that stimulate his/her desire to know more.

- In what concerns new notions (such as functions) that assume that the student has a high level of maturity, the appeal will be to his/her intuition and not to his/her reasoning.
- Pleasant and easy proofs were kept in the text while those that seemed to us complicated and difficult were omitted. Our objective was to introduce the student to reasoning and to prepare him/her to tackle the exercices at the end of the chapter with ease.
- The "Just for Fun" heading closes each chapter of the book. This will be the focus of a weekly session reserved for independent mathematical research with a therme (that the teacher will choose or modify according to the level of the class). Some may think that this approach is "not classical" and so oppose it by naming it a "waste of time". We reply, however, that the benefits of such research by far compensate for the relative length of time allocated to it.

Finally, any remarks, criticisms, or suggestions that colleagues would like to make will be received with attention.

The authors

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