

AN EVALUATION OF THE NEED FOR A PRACTICAL MATHEMATICS COURSE  
AT  
MILLBROOK HIGH SCHOOL

A THESIS  
PRESENTED TO THE GRADUATE FACULTY  
OF  
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by

James George Clothier

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*Robert L. Hoburg*  
\_\_\_\_\_  
Thesis Advisor

*Charlotte H. Isham*  
\_\_\_\_\_  
For the Graduate Division

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\_\_\_\_\_  
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## CHAPTER I

## INTRODUCTION

The Problem

The term mathematics, when mentioned to students and adults with a non-science background, often receives comments such as "That won't concern me when I leave school." or "When will I ever use it?" or "I have never understood mathematics." Such comments reflect the feeling and uneasiness most people have toward the mathematics they have seen in high school and college. Almost everyone has a need for a certain amount of mathematics regardless of his station in life or his desire to acquire certain necessary mathematical skills. An example of a very basic need for nearly everyone is the ability to use money and to count and make change. The basic topic of money can be expanded to more sophisticated topics such as bank accounts, income taxes, home expenses, investing, and operating a family budget. Almost every individual does have a need for certain practical mathematical abilities and a basic understanding of concepts relating to topics which are met in everyday life situations. Consider the adults who do not comprehend how to balance a checkbook and constantly phone their bank for a balance; has their training in mathematics been sufficient?

Very often such comments as "My child is about to graduate from high school and still does not know how to handle a checkbook or fill out his income tax." or "Why aren't our children taught about the pitfalls of credit cards and finance companies?" have been directed toward the author during conversations with parents concerning the progress of their children or in discussions with members of the community relating to the mathematics program at the high school level. These questions cannot adequately be answered with the statement that the mentioned topics are not normally part of the high school curriculum because the immediate reply is "Why not?" This question is sincere and should not be dismissed lightly. If one of the basic purposes of the high school curriculum is to prepare students to become competent and contributing members of society, then the "Why not?" is very relevant.

In this context, then, the question concerning mathematical capabilities is very important. Do our high schools adequately prepare students for the immediate needs relating to mathematics abilities upon leaving school? It is the author's opinion that not all students are adequately prepared.

The purpose of this study is not to discuss or evaluate the so-called "New Math" approach or to criticize the current high school courses of Algebra, Geometry, Mathematics 11, and Senior Mathematics. Instead, the purpose is

to attempt to show the need for a mathematics course dealing with practical applications of mathematics for everyday life situations which will be beneficial to all students, including those with a good grounding in mathematics.

#### Definition of Terms

Basic skills. As used in this study, basic skills are those abilities such as computation with whole numbers, fractions, decimals and use of proportion, percent, and ratio which are inherent in any further work in mathematics.<sup>1</sup>

Need. For the purpose of this study, need is present if a person has required or used information about a topic on the questionnaire.

Practical mathematics. These are the topics of applied mathematics which deal with specific problems of everyday life in our society, including budgeting money, tax structures and rates, interpreting graphs, reading maps, and investing money.

#### Limitations of the Study

As with any study of this type there are certain limitations. Some of the possible limiting sources in this study are: (1) the size of the sample compared to the total population (168 to approximately 8,000); (2) the number of

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<sup>1</sup>E. L. Edwards, Jr., Eugene D. Nichols, Glyn H. Sharpe, "Mathematics Competencies and Skills for Enlightened Citizens," Mathematics Teacher LXV (November 1972):673-74.

graduates who have left the area and are not able to be contacted; (3) pertinent items omitted on the questionnaire; (4) too much reliance on the questionnaire; and (5) the need for more than two types of observations.