Letter: *from the Author*

Dear Students,

Introduction

The study of Calculus is one that demands respect. Many professions require the study of Calculus. Students who complete the course successfully are often held in awe. Others only experience failure.

In recent years, however, technology has been developed that increases the probability of success. Concepts can now be explored graphically, numerically and analytically with the use of the TI-89. This provides you, the student, an opportunity to "see" concepts as never before. Perhaps this is the way that they were "seen" by the great mathematicians of the 17th and 18th centuries who first unlocked the secrets of the Calculus.

Your Part

The part you must play, in order to be successful, is that of a willing participant. Math is not a spectator sport. You must have a questioning mind and a commitment to understand each concept as you proceed. This book is written to help you gain an understanding of some of the most important concepts in Calculus and to introduce you to the power of the TI-89.

We proceed with the view that a calculator is more than just an "answer box". The TI-89 is a tool for learning, a tool that can help open your mind to an understanding that is all your own. Memorizing steps to a solution is insufficient. You must be able to answer the question, "Why?"

As in any course, seeing "The Big Picture" is your goal. Each lesson includes a section for keeping a journal to give you a chance to summarize the main points in the lesson and to note important definitions and theorems. Your teacher may instruct you to include other entries as well. At the end of the year, you will find it to be a valuable tool for review.

The best advice that I can give you is to complete your homework assignment **each day**. Understand each concept as it is covered or ask questions until you do. The purpose of these lessons is to support you in that endeavor.

The Course of Study

The three major branches of Calculus are:

- Limits
- Derivatives
- Integrals

Each branch builds upon another. At the end of the course you should understand how each concept is related to the others, and how they all fit together as a whole. The development of Calculus changed the world. Discover its power.

With my sincere wishes for your successful journey,
Brenda Batten