

## **Financial Mathematics**

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## About this Publication:

This book introduces the fundamentals of financial mathematics. It begins with a discussion of simple and compound interest and then establishes the important concepts of effective and equivalent effective interest rates. Subsequent chapters discuss the applications of annuities to practical problems regarding the saving of money and repayment of loans. The notion of using net present value and internal rate of return to distinguish between two different investment opportunities is presented. The concluding chapters of the book take a brief look at the use of differential and integral calculus in financial mathematics. Each chapter includes numerous worked examples that are solved with the aid of a financial calculator where applicable. Key words that describe the book:

- Problem-solving
- Financial mathematics
- Financial calculator

## **Contents Include:**

- Chapter 1: Simple and Compound Interest
- Chapter 2: Nominal, Effective and Equivalent Effective Interest Rates
- Chapter 3: Applications of Simple and Compound Interest
- Chapter 4: Annuities
- Chapter 5: Applications of Annuities to Savings I
- Chapter 6: Applications of Annuities to Savings II
- Chapter 7: Applications of Annuities to Loans I
- Chapter 8: Applications of Annuities to Loans II
- Chapter 9: Newton's Method
- Chapter 10: Cash Flow
- Chapter 11: Continuous Compounding and Continuous Money Flow
- Appendix A: Derivation of the Formula for Growing Annuities
- Appendix B: Derivation of the Formulas for Balance Outstanding
- Appendix C: Derivation of the Formula for Continuous Compounding

## Of Interest and Benefit to:

First-year accountancy and commerce students.