Preface

The previous editions of *Basic Arithmetic* were created and tested over a number of years at Fullerton College, Fullerton, California. This fifth edition is based on the classroom experience of the authors and many other arithmetic teachers at numerous colleges across the country. This fifth edition has undergone rigorous copy-editing and proofing. Although the structure of earlier editions has been retained, we have made significant additions and improvements in this edition. The main features of the fifth edition are as follows:

- The chapters are divided into six sections. Each section includes a Practice Test with answers so that students may review for a major test.
- The number of supplementary problems has been increased. The answers to the odd-numbered supplementary problems are included at the back of the text.
- More applied problems have been inserted throughout the text.
- A new chapter covers equation solving and ratio and proportion. Problem solving by means of equations is used extensively.
- Addition and subtraction have been combined into a single section (Section 2).
- The chapters on percent are divided into two sections. The first section deals with basic operational procedures and interest. The second section contains optional applications and divides these applications into the two main categories of percent decrease and percent increase.
- The chapter on interest is subdivided into two parts, each with appropriate review exercises and supplementary problems. Part I covers simple interest, credit accounts, and the Truth-In-Lending Act. Part II covers compound interest and the use of a table, extended to include higher interest rates.
- Three chapters are now devoted to the metric system. The first encourages students to "think metric." The second chapter has students working entirely within the metric system, making use of a chart to simplify movement of the decimal point. Two additional prefixes have been introduced: micro and mega. Metric-English conversions are performed in the third chapter.
- Metric units of length, volume, and mass are used in problems involving measurement.
- The Pythagorean Theorem is introduced and applied in the measurement module.

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To the Student

Format of the Text

There are 38 chapters contained in the text. Each chapter has been divided into the following parts:

(b) Study Exercises

(c) Review Exercises

(d) Solutions to Review Exercises

(e) Supplementary Problems

(f) Solutions to Study Exercises

Study Exercises Study exercises should be worked and the answers checked before continuing to the next chapter. If you do poorly on a study exercise, repeat that part of the chapter.

Review Exercises When you do the review exercises, check your answers with the ones immediately following. The review exercises are extremely important, in that they will be a measure of your understanding of the entire chapter. If you don't do well on the review exercises, go back and review the entire chapter.

Solutions to Review Exercises The solutions to the review exercises immediately follow the review exercises. They are, for the most part, detailed solutions. Be sure to compare your work carefully with the details of these solutions. Many of your mistakes can be understood and corrected in this section.

Supplementary Problems Immediately following solutions to review exercises is a section of supplementary problems. There are answers for the odd-numbered problems at the end of your text, and your instructor may wish to use the others for homework problems or for quizzes. However, you are encouraged to try as many as you wish. Remember, in mathematics, practice is the key to success.

Solutions to Study Exercises At the end of each chapter you will find the detailed solutions to the study exercises. As you proceed through the chapter, you should work the study exercises and check your results with this section.

Study Techniques

- Cumulative practice tests with answers are spaced periodically throughout the text. These practice tests each cover one section and should be worked before each examination in the course, since they contain questions similar to those you will encounter on the examination itself.
- Before an examination, review all of the chapters involved, the review exercises, and work the practice test.
- Remember that mathematics pyramids. That is, it builds on itself. Don't get behind. In fact, it is a good idea to try to stay a chapter ahead.
- May students have indicated that they had tremendous success by doing a "constant review"— that is, constantly going back and redoing earlier chapters.

New to This Edition!

BVT*Lab*

For Students

BVT*Lab* the most affordable, comprehensive online lab for college math students, provides the practice questions, learning aids, and communication tools that students need for success. Even if your instructor does not use the lab as a classroom, you are always welcome to visit as a guest and take advantage of the many free resources.

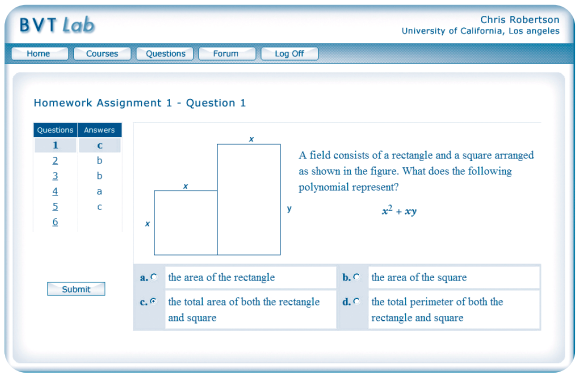
Practice Questions

Students can work through an expansive set of practice questions online. Questions are all multiple choice or true/false and are graded instantly for immediate feedback.

www.BVTLab.com

Worked Solutions

BVT*Lab* includes fully worked solutions for many of the odd-numbered questions from the textbook. An extended set of worked solutions is available with the purchase of the Student Solutions package, available at **www.BVTLab.com.**



Tutorials

Online video clips, audio files, or animated tutorials—all playable in any web browser—reinforce challenging concepts.

Additional Help

Helpful hints accompany selected questions, and the instructors may provide additional tips specific to their students. An "Ask the Instructor" button is also available on homework assignments and practice questions.

Discussion Forum

An online discussion forum allows students to interact with each other and the instructor to explore challenging concepts and share other resources, while providing an online community for distance learning.

Review

Students can view their grades for all completed work and also review prior homework and quizzes to identify areas that require additional study.

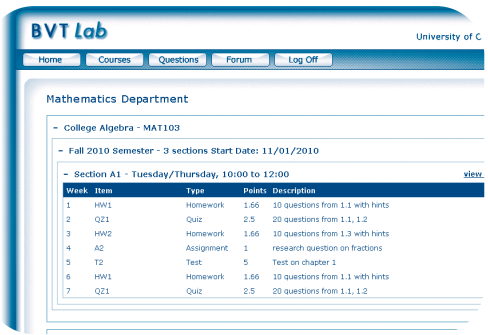
New to This Edition!

For Instructors

BVT*Lab*—a simple, robust, online lab for college math instructors and their students—provides essential teaching, assessment, and communication tools. It is an affordable option for students, with student lab fees costing only $19.99 for a full-semester course. Even if you do not use the lab as your online classroom, your students can still take advantage of the many free student resources.

Course Set-up

BVT*Lab* has an easy-to-use, intuitive interface that allows instructors to quickly set up their courses and grade books, and replicate them from section to section and semester to semester. Multiple choice and true/false questions can be delivered online as practice questions, homework assignments, quizzes, and tests, each of which draws from a separate bank of questions.



Homework, quizzes, and tests have assigned start and end times; and tests can be proctored in the computer lab, or self-proctored for distance learners. Homework and quizzes offer optional hints and instructor tips. In addition, practice questions can be linked to fully worked solutions and multimedia tutorials.

Instructors can preview and manually select questions assigned to students, or they can use the "quick-pick" feature in BVT*Lab* to generate sets of questions.

Grade Book

Using an assigned passcode, students register themselves into the grade book. All homework, quizzes, and tests are automatically graded and recorded in the grade book. In addition, instructors can manually enter or modify scores, with provisions for extra credit, attendance, and participation grades. Grade books can be replicated from section to section, semester to semester, and can be easily edited or modified if required.

Communications Tools

Instructors can post discussion threads to a class forum and then monitor and moderate student replies. Important notifications can also be sent directly to each student via email.

www.BVTLab.com