

Grades 9–12

Consumer Mathematics (10–12)

Practical, motivating approach

It captures the attention of teenagers immediately with Unit One, “Buying a Car,” and proceeds to units on budgeting; banking; investing; keeping tax records; purchasing food, clothing, and a home; and more!

Decisively Christian and American content

The text presents a Scriptural view of working, tithing, saving, paying taxes, and budgeting time and money and gives a positive introduction to the American free-enterprise system.

Problem-solving strategies

Each information-packed unit contains sample problems for students to follow as well as an abundance of practice problems.

Analytical skills development

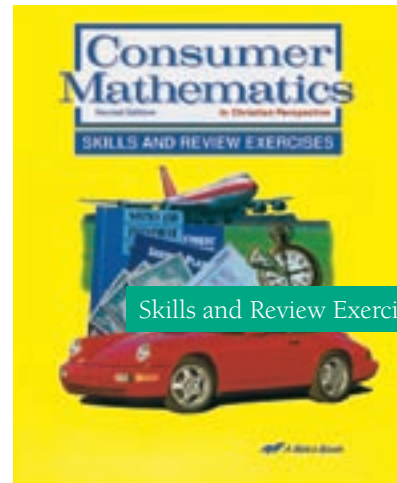
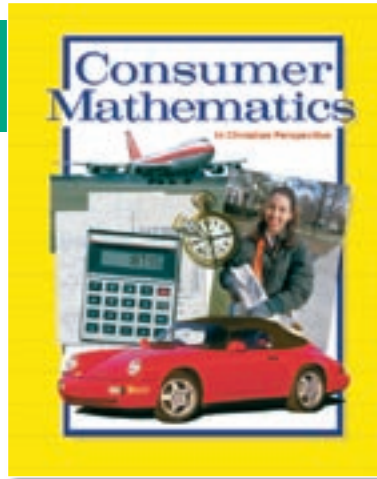
An analytical skills section in each chapter challenges students to analyze practical problems or opportunities they could soon be facing.

Attractive format

The colorful, attractively designed text is a joy to use. An abundance of charts, graphs, and illustrations spark student interest.

Accompanying skills workbook

The Skills and Review Exercises workbook gives students the practice they need to master arithmetic skills.



Skills and Review Exercise Y

Formulas that are easy to find

Clear explanations

Concepts and skills explained clearly

1.4 Depreciation

One of the simplest methods of depreciation is the straight-line method. In this method, the average annual depreciation is found by dividing the total depreciation by the number of years.

Model Problem

John Phillips paid \$15,000 for his car 3 years ago. The car is worth \$12,000 now. Find the average annual depreciation.

Solve the word problems:

17. Bertie bought a new car 4 years ago for \$18,000. He normally used the car for 20,000 miles. What was the average annual depreciation? (What was the average annual depreciation?)
18. John Phillips paid \$10,000 for a new car 5 years ago. Because he did not properly maintain it, he received only \$6,000 when he sold the car. What was the average annual depreciation? (What was the average annual depreciation?)
19. The next year, Lester Diller bought a new car for only \$12,000. He normally drove approximately 15,000 miles a year. What was his average annual depreciation? (What was his average annual depreciation?)

Model Problem

2. Find the rate of depreciation in the second vehicle given for John Phillips's car.

To find the rate of depreciation, divide the total depreciation by the number of years.

Exercises

Find the average annual depreciation.

1. Depreciated over 4 years; original value \$15,000; current value \$12,000; years owned 3	2. Depreciated over 5 years; original value \$22,000; current value \$18,000; years owned 4	3. Depreciated over \$12,000; original value \$15,000; years owned 4	4. Depreciated over \$22,000; original value \$25,000; years owned 4	5. Depreciated over \$17,000; original value \$15,000; years owned 3
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Easy-to-follow, clear examples

Biblical principles that encourage right thinking

Challenging word problems that give excellent practice

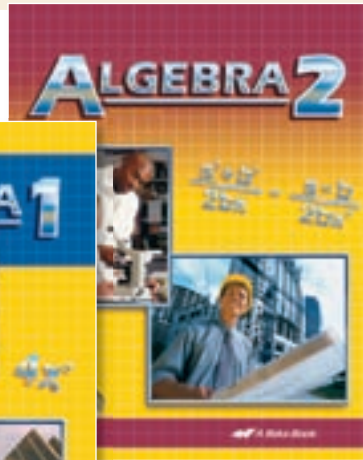
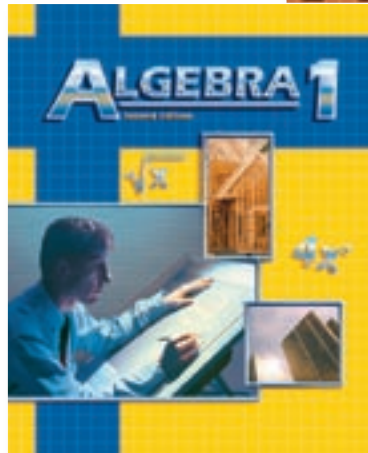
Abundant practice

Grades 9–10

Algebra 1 & Algebra 2 (9–10)

Mathematics is the language God used in His creation of the universe. Help your algebra student to discover its logic, order, beauty, and practicality with these outstanding texts that refrain from excessive verbiage and jargon to allow room for common sense. Throughout each course, students are encouraged to use their reasoning ability as they work with the axioms, rules, and principles of algebra.

The algebraic system is built logically, with smooth transitions from one concept to another. Mathematical concepts are developed and mastered through an abundance of worked examples and student exercises. Word problems are emphasized, and many application problems related to the physical world are included.



Algebra 2

Practical word problems

Clear explanation of concepts

Sample problems worked step-by-step

Practice to help master the concept

3.2 Reduction to Lowest Terms

Principle
Multiplying or dividing both numerator of a fraction by the same number does not change the value of the fraction.

Example Reduce $\frac{4x^2y^3z}{12x^3yz^2}$ to its lowest terms.

Check Let $x = 2, y = 3, z = 4$

Check The following four cancellations of factors may be checked for when the factors are cancelled. It should be remembered that the answer is 1, not 0!

Check When choosing values of literal quantities as a check, be sure to choose values that do not make the denominators equal to zero.

Check
To reduce a fraction to its lowest terms, factor both the numerator and denominator and cancel their common factors. Leave your answer in factored form.

Exercise 3.2
Reduce to lowest terms.

- $\frac{2}{3}$
- $\frac{4}{6}$
- $\frac{6}{9}$
- $\frac{8}{12}$
- $\frac{10}{15}$
- $\frac{12}{18}$

1. $\frac{2x^2y^3z}{3x^3yz^2}$

2. $\frac{4x^2y^3z}{6x^3yz^2}$

3. $\frac{6x^2y^3z}{9x^3yz^2}$

4. $\frac{8x^2y^3z}{12x^3yz^2}$

5. $\frac{10x^2y^3z}{15x^3yz^2}$

6. $\frac{12x^2y^3z}{18x^3yz^2}$

Word Problems

16. Five big trucks carried 24 large logs from the woods; one truck had 2 large logs more than each of the others. How many logs did each truck hold?

17. The St. Lawrence River at a point where it is spanned by a bridge 1,000 feet wide. This is 100 feet less than $\frac{1}{2}$ of the length of the bridge. How long is the bridge?

3.3 Reduction to a Non-Fractional Expression or a Mixed Expression

Example Reduce $\frac{4x^2y^3z^2}{12x^3yz^2}$ to a non-fractional expression.

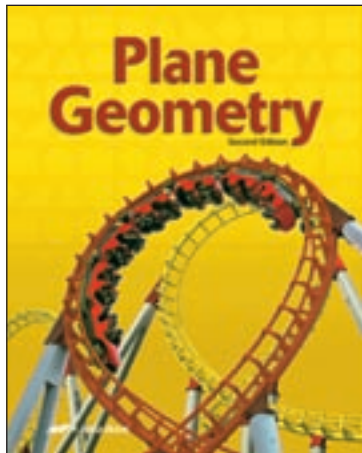
Since a fraction is a non-fractional division, we can divide the numerator by the denominator and the quotient part of the division is kept outside the denominator.

When the denominator is a polynomial, let us (1) factor and cancel, (2) divide by synthetic division, or (3) divide by long division.

Mathematics

Grades 11–12

Solid preparation for college mathematics



Second Edition

Plane Geometry: A Traditional Approach

This traditional text acquaints students with the fundamental tools of geometry in an interesting way. Students are impressed with the necessity of a formal proof before being plunged into demonstrative geometry. Many proofs are done for the students to train them in the thinking process. Students are taught to think naturally, logically, and systematically through a well-written text and through abundant exercises. Students enjoy the many “extras” which include the mathematical information on several famous buildings, biographies of great mathematicians, and geometry in the world around us.

Advanced Math

■ Thorough in scope and clear in presentation

These texts provide a foundational introduction to the underlying principles of higher mathematics. Students receive a good working knowledge of the subject and are trained to think naturally, logically, and systematically.

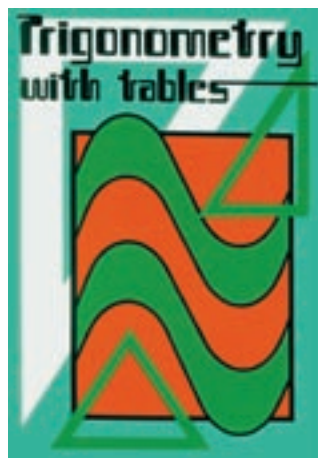
■ Easy-to-use, logical approach

The texts are simple in organization and exact in explanation, and place an emphasis on student understanding. Care

is taken throughout to ensure that theory leads to understanding and the ability to make applications.

■ Solid skills instruction every step of the way

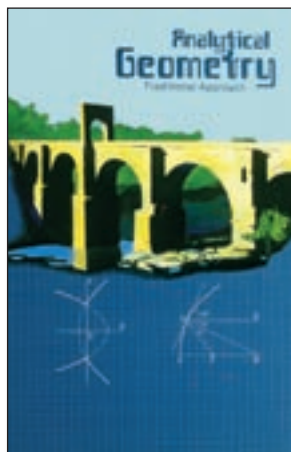
New concepts are carefully explained and linked to previously learned material. Numerous examples illustrate definitions and principles. Extensive exercises provide ample practice for application and retention of student learning.



Trigonometry with Tables

One semester

The development of new concepts is based upon students' previous experience in mathematics, and the text is written in language that is easily understood. Numerous examples illustrate definitions and principles. Students are led to understand rather than to memorize. Identities and equations are developed gradually and are fully treated; the distinction between them is stressed.



Analytical Geometry

One semester

Each highly important and useful technique is introduced at the first opportunity and brought in again whenever it may be applied to simplify a procedure. This text prepares students for college calculus.