WELCOME TO *ALGEBRA 1*!

"It was interesting to think that the very first liquid ever poured on the moon, and the first food eaten there, were communion elements."
— Buzz Aldrin

In July 1969, Apollo 11 became the first spaceflight to land human beings on the moon. Edwin "Buzz" Aldrin, pilot of the Lunar Module Eagle, marked the occasion by reciting John 15:5 and partaking in the Lord's Supper. As he recalled the atoning death of the one who created the very moon on which the Eagle sat, Aldrin hoped taking communion could symbolize "the thought that God was revealing Himself there too, as man reached out into the universe."

To make this moment happen, the entire Apollo 11 team relied upon the consistency and logical order within mathematics. Math, including algebra, is used extensively by spaceflight teams to calculate every detail for a mission, including supply needs, trajectories, and air pressure changes inside spacecraft.

As you make your own voyage through *Algebra 1*, you will consider God's grand design of an orderly universe and develop a biblical worldview of math itself: why it works, why it is an effective tool, and how it should be used. Each chapter focuses on one of five themes to help you form this biblical view: foundations, modeling, reasoning, design, and ethics.

What sort of math will you be learning? *Algebra* is taken from the Arabic word *al-jabr*, which carries the idea of the reunion or restoration of broken parts. The concepts and skills you will learn from this book will help you take the fragmented information of a problem (unknown quantities) and organize it into a useful mathematical form by manipulating numbers and variables. You will be challenged to develop skill in the following essential mathematical practices.

MP1. Persevere in problem solving.

MP2. Use abstract reasoning.

MP3. Construct logical arguments.

MP4. Use mathematical models.

MP5. Use appropriate tools.

MP6. Use precise language.

MP7. See and apply structure.

MP8. Generalize patterns.

This text provides instruction and exercises created to assist you in developing these skills. Each section comes with clearly stated learning targets, step-by-step examples, Skill Checks, QR codes for tutorial videos, and cumulative review. *Algebra 1* has been written and designed with student success in mind.

Enjoy making the most of this year as you learn algebra. The problem-solving skills you develop will be useful to you whether you go on to be an entrepreneur, an architect, or even an astronaut. Shoot for the moon!

USING YOUR BOOK

Chapter Introduction

Preview the basic outline of the chapter.

Math in History & Careers in Math

Read biblical perspectives on the lives of famous mathematicians and math-related careers.

Technology Corner

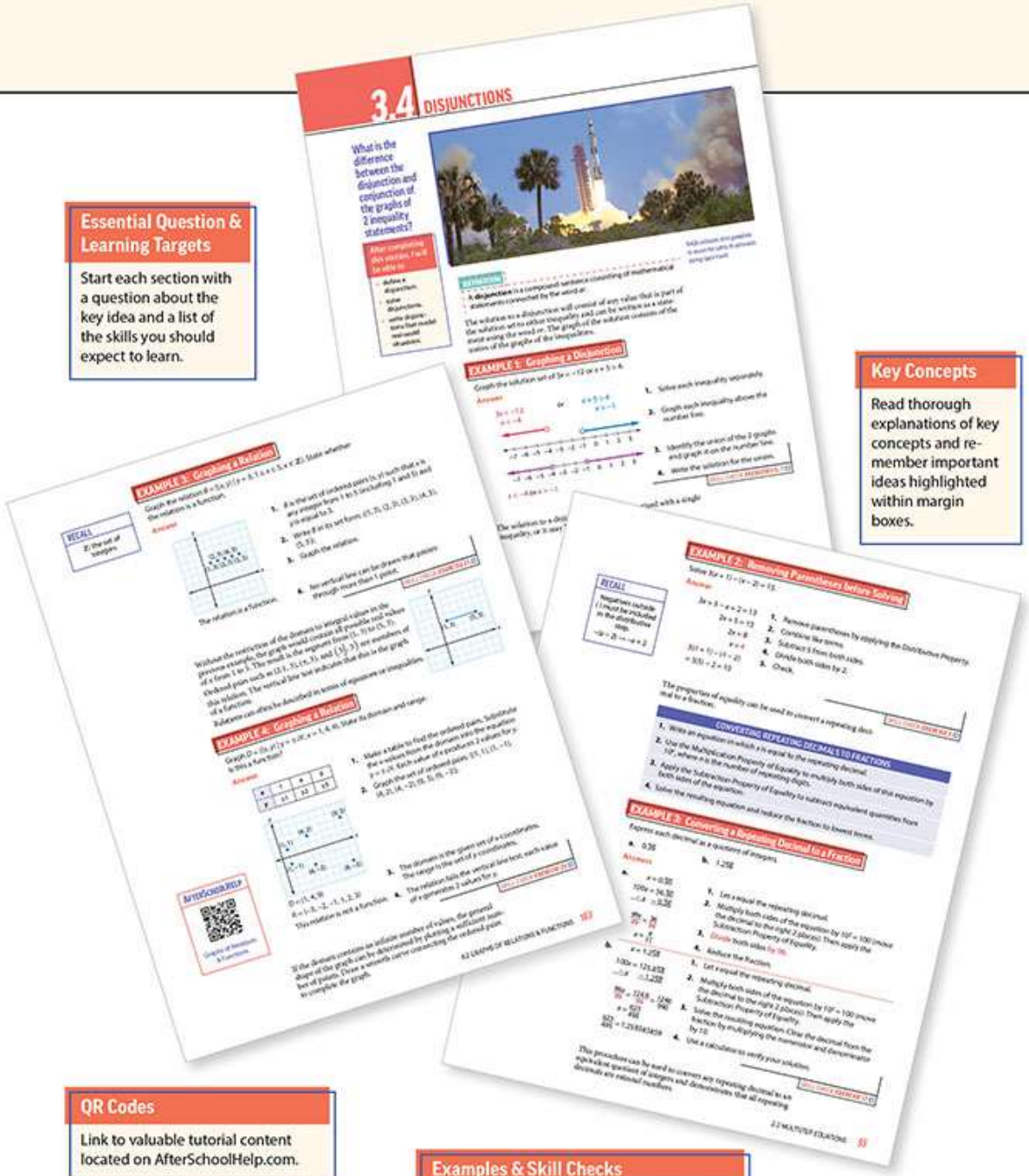
Follow step-by-step instructions to apply basic uses of the graphing calculator related to each chapter's content.

Application Problems

Apply learned math skills to solve real-world problems.

STEM Project

Preview the semester STEM projects located in Activities.



Essential Question & Learning Targets

Start each section with a question about the key idea and a list of the skills you should expect to learn.

Key Concepts

Read thorough explanations of key concepts and remember important ideas highlighted within margin boxes.

QR Codes

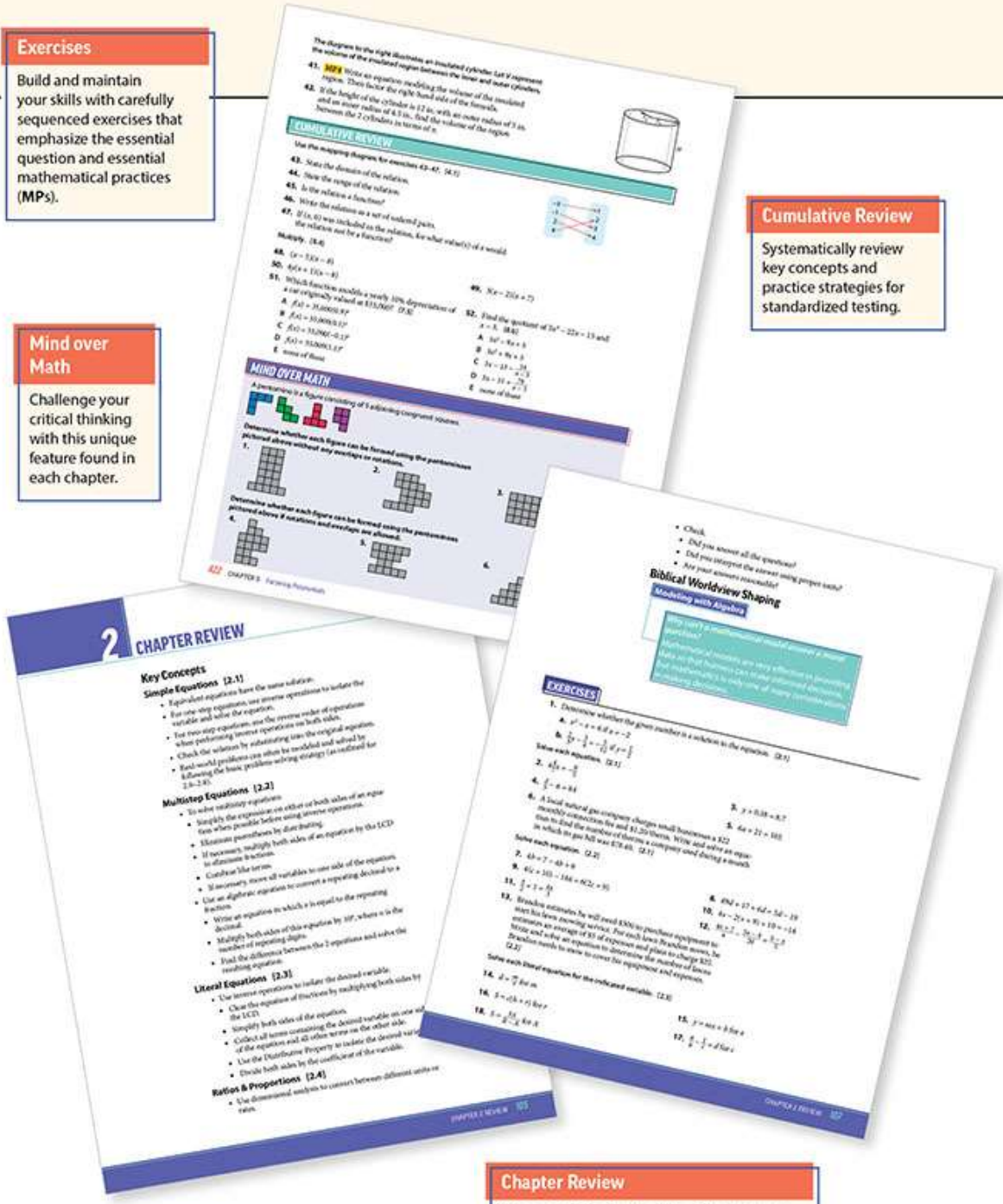
Link to valuable tutorial content located on AfterSchoolHelp.com.

Examples & Skill Checks

Study the step-by-step reasoning in solving example problems, and check your understanding by completing targeted exercises mapped to each example.

Exercises

Build and maintain your skills with carefully sequenced exercises that emphasize the essential question and essential mathematical practices (**MP**s).



Cumulative Review

Systematically review key concepts and practice strategies for standardized testing.

Mind over Math

Challenge your critical thinking with this unique feature found in each chapter.

Chapter Review

Prepare for the chapter test with a summary of key concepts, a review of the biblical worldview theme, and review exercises.