WELCOME TO *GEOMETRY*!

"And God said, Let us make man in our image, after our likeness."
— Genesis 1:26a

Since we are created in God's image, we have attributes similar to His. While we cannot create from nothing as God did, we can create beautiful art and buildings. God created the universe by simply speaking it into existence, but our creations require existing materials, careful thought, frequent collaboration, and hard work.

The Creation Mandate in Genesis 1:28 authorizes us to manage the earth's resources and develop them to their fullest potential. Since people first fell into sin (Gen. 3), we have struggled to fulfill this God-given mission. The powerful tool of mathematics helps us describe and understand His creation in our attempts to exercise wise dominion.

The word *geometry* comes from two Greek words that mean "earth measure." Around 300 BC the Greek mathematician Euclid organized the known geometric principles into 13 books called the *Elements*. These 13 books formed the foundation for the definitions, postulates, theorems, proofs, and constructions in today's Euclidean geometry that provides abstract models of the world around us.

Initial attempts at any new skill—such as driving a car, programming a computer, or playing a sport or a musical instrument—may be challenging. As diligent effort and consistent practice breeds success, the activity becomes more enjoyable. This text provides instruction and exercises created to assist you in developing the following essential mathematical practices (**MP**s).

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.

During your study of geometry, you will learn to apply formal logical thinking to prove statements and solve real-life problems. Each section contains clearly stated learning targets, thorough explanations of each concept, step-by-step examples, skill checks, and cumulative review exercises. QR codes link to tutorial videos and additional activities. *Geometry* has been written and designed with student success in mind.

Enjoy making the most of this year learning more about geometry. The deductive reasoning and problem-solving skills you develop will serve you well whether you become an engineer, a pilot, or a cake designer.

USING YOUR BOOK

Chapter Introduction

Preview the sections and special features in the chapter.

Geometry around Us

Discover and discuss the role of geometry in various careers and your daily life.

Geometry in History

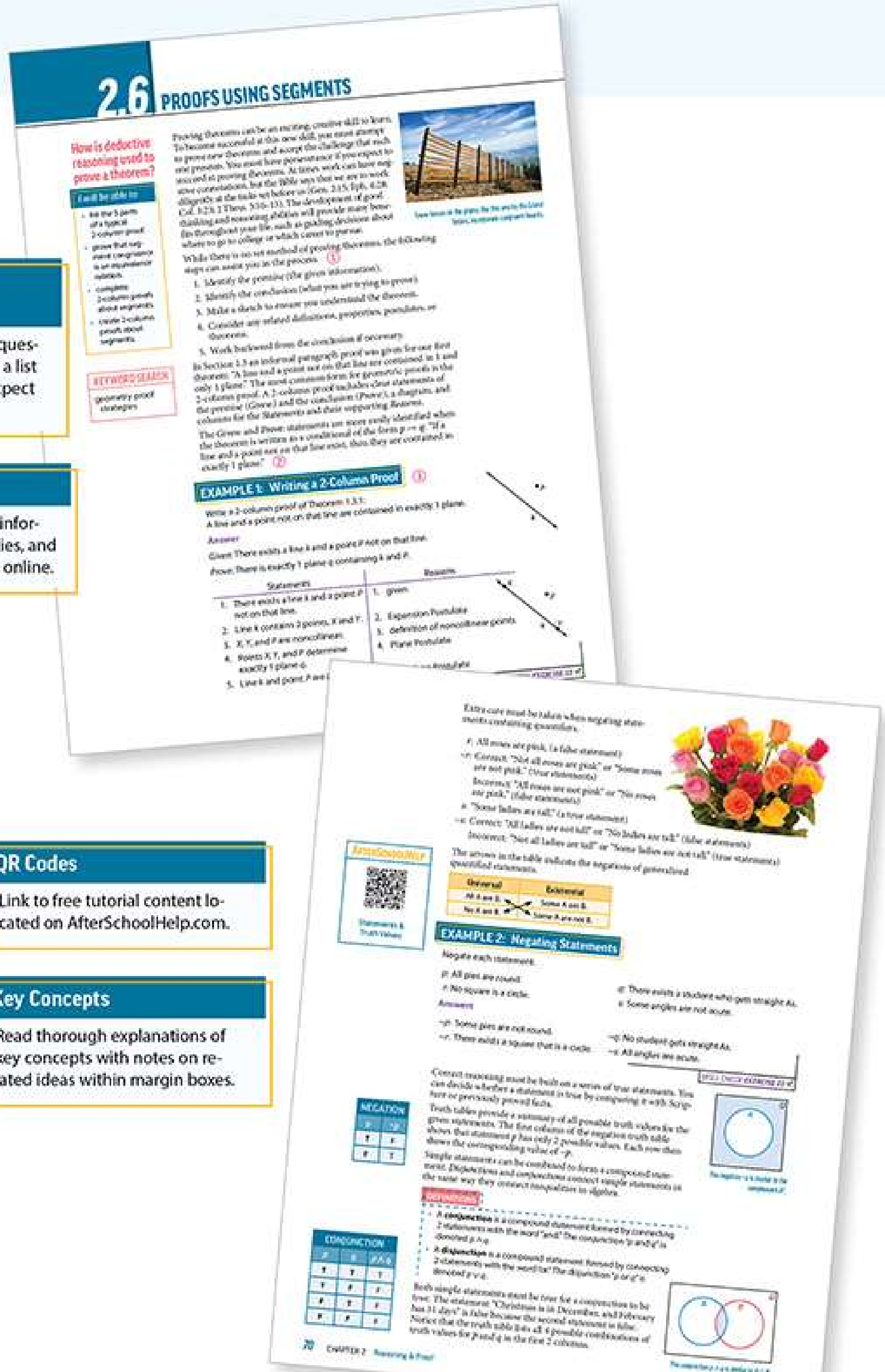
Explore the impact of a person's worldview in four 3-part series of historical fiction narratives.

Essential Question & Learning Targets

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

Keyword Searches

Quickly locate additional information, interactive activities, and supplementary resources online.

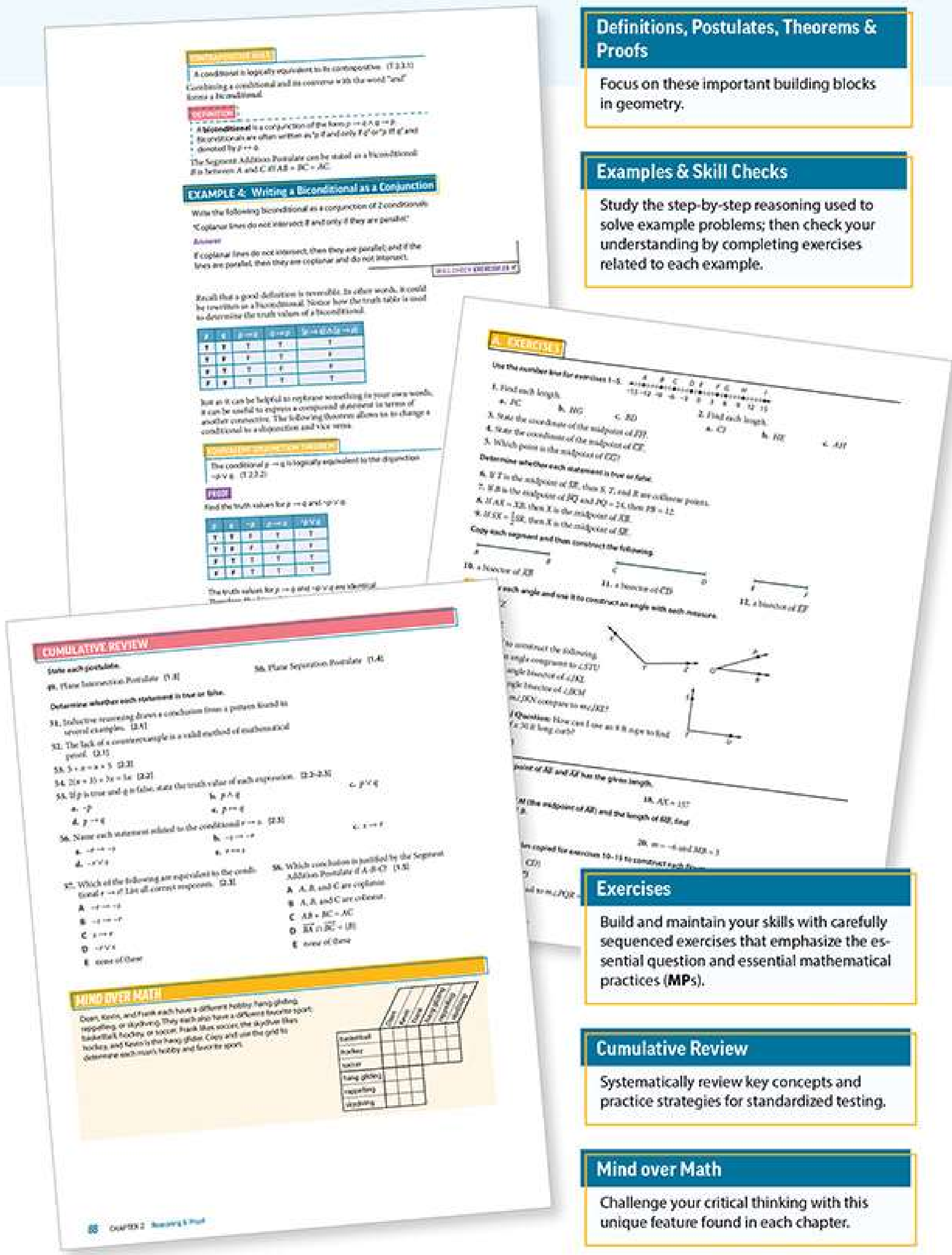


QR Codes

Link to free tutorial content located on AfterSchoolHelp.com.

Key Concepts

Read thorough explanations of key concepts with notes on related ideas within margin boxes.



Definitions, Postulates, Theorems & Proofs

Focus on these important building blocks in geometry.

Examples & Skill Checks

Study the step-by-step reasoning used to solve example problems; then check your understanding by completing exercises related to each example.

Exercises

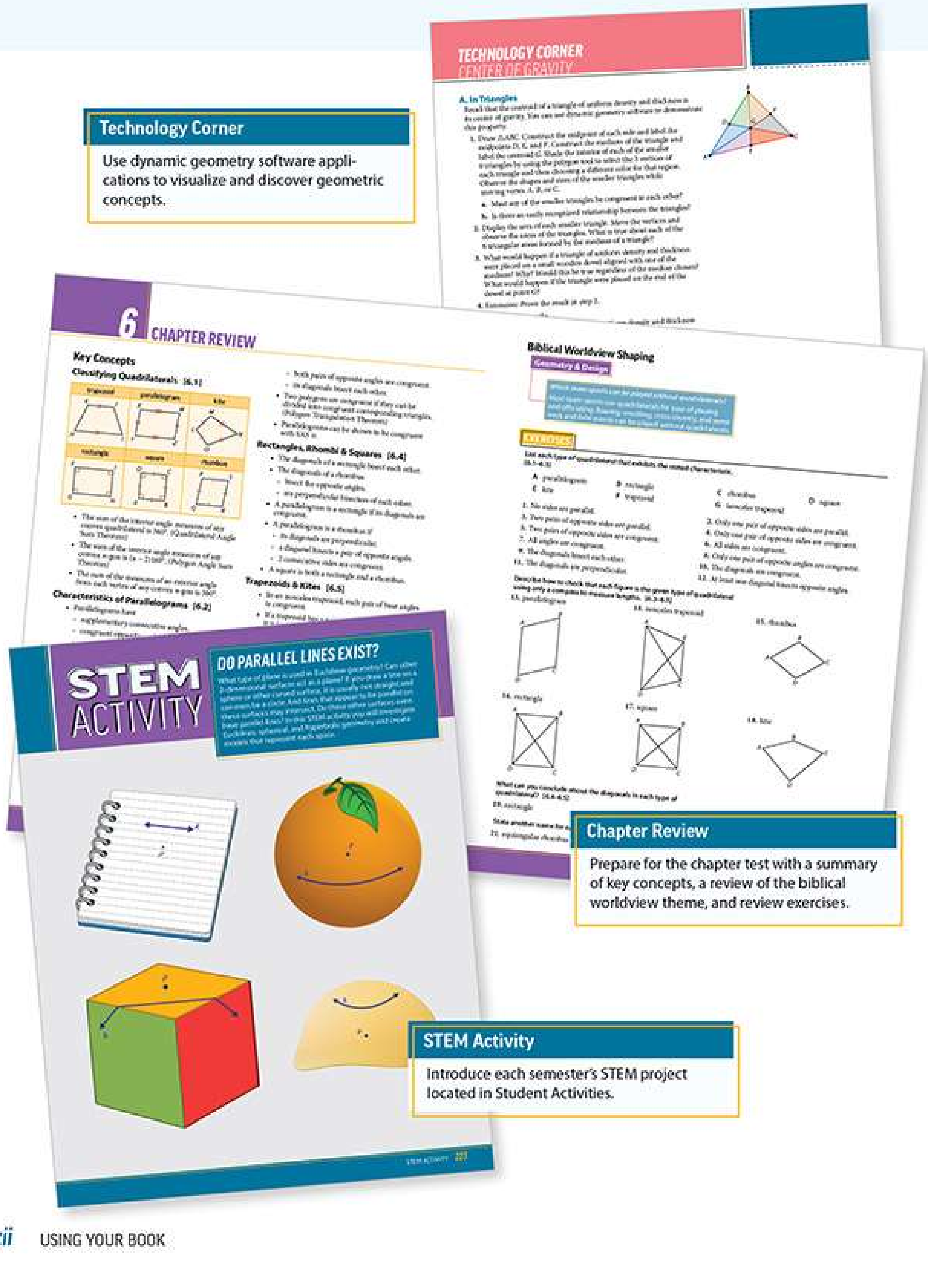
Build and maintain your skills with carefully sequenced exercises that emphasize the essential question and essential mathematical practices (**MP**s).

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.



Technology Corner

Use dynamic geometry software applications to visualize and discover geometric concepts.

Chapter Review

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

STEM Activity

Introduce each semester's STEM project located in Student Activities.