The five biblical worldview themes in *Geometry* are foundations, modeling, reasoning, design, and ethics. These themes reinforce the concept that the discipline of mathematics is not neutral; it is taught, learned, and applied in accordance with a worldview. The biblical worldview shaping themes grapple with what it means to be a Christian mathematician, asking the following questions:

- "What makes the things I'm learning in geometry true?" (Foundations)
- "What does the ability to model teach me about God and His creation?" (Modeling)
- "Is valid reasoning in proofs what leads to truth?" (Reasoning)
- "What does geometry tell me about the world's structure?" (Design)
- "How should I use my mathematical knowledge?" (Ethics)

Objectives that focus on biblical worldview shaping occur throughout the text of *Geometry* and deliberately scaffold from lower levels to higher levels. In order to shape a biblical worldview of geometry, the beginning of the textbook focuses primarily on *explaining* the themes. As the themes are repeated, the students will *evaluate* several fallen ideas related to the themes. Students are presented math lessons in a way that helps them—by the end of the textbook—*formulate* and *apply* a biblical view of mathematics in an age-appropriate way. As students develop their mathematical skillset, various real-world scenarios will connect the math concepts with worldview-shaping content. The worldview-shaping content in this textbook aims to ground students in Scripture for all their pursuits, develop a mindset which balances the usefulness and limitations of mathematics, and lead them to serve God and their neighbors in all they do.

## 1. Foundations of Geometry

*All legitimate interpretation relies on Scripture.*

**Creation:** God communicates truthfully, honestly, and reliably through His Word. The creation narrative (Gen. 1–2) presents God as the sole Creator and shows creation as being in perfect harmony. The world exists—and is upheld—by the speech of God (Gen. 1; Heb. 1:3). Moreover, God has interpreted the world for us in Scripture. His creation is understandable, and humanity has the capacity to understand parts of His creation through multiple avenues. Humans, as His image-bearers, have been called to fill, subdue, and rule over the earth (Gen. 1:28, often called the "Creation Mandate"). The study of geometry can be understood as a creaturely endeavor to describe God's creation, often taking place as part of mankind's subduing and ruling over the earth. All descriptions rest on God's interpretation of the world in His Word.

**Fall:** The serpent twisted God's word in the garden (Gen. 3:1, 4). Ever since the Fall, humanity's inclination is to reject God's commands. People turn away from—and outright reject—God and His interpretation of His own creation. Instead of trusting upon God for understanding, fallen people favor their own ideas (contrary to the instruction of Prov. 3:5–8). In our postmodern world, the rejection of God and His Word has led to the assertion that everyone defines truth in his or her own way.

Humanity's reliance on itself apart from God's Word has implications in every realm of life. For example, for fallen people, the consistency of mathematics does not direct attention to God's consistency and the nature of His creation. Instead, people often use mathematic principles with no regard for the God who created the world they describe.

**Redemption:** Scripture calls believers to look upon God for all things. He alone is our sufficient source in life (2 Cor. 3:5). Recognizing one's own insufficiency isn't easy. However, the believer's authority is Scripture

(2 Tim. 3:16–17), and God and His Word are a sturdy foundation (Matt. 7:24–27). When people rest on Christ's atoning work and act according to His commands, they are not washed away but rather are able to stand firm.

The ability to describe creation consistently and in an orderly manner—as with geometry—is a spectacular gift of God. Geometry—and mathematics in general—points us back to the Creator. Instead of usurping God as Creator and Interpreter of His creation, we must place our understanding upon Him as our foundation (Prov. 3:5–6).

## 2. Modeling in Geometry

*Modeling is a useful, though incomplete, human way of representing creation.*

**Creation:** God created people with the ability to observe His creation and make simplified representations of it. Moreover, from creation, God instructed humanity on what the nature of work is: subduing and ruling over the earth (Gen. 1:28). Humanity's understanding, representing, subduing, and ruling are all subject to creaturely limitations. Humanity cannot observe or experience everything in the world, let alone know everything about everything. Mathematical models, as simplified representations, are useful and effective so long as their design's assumptions are known, considered, and valid. Modeling in geometry must coincide with obedience and thankfulness to God and His Word.

**Fall:** Since the Fall, humans continuously view themselves (or their creations) as equal to—or even above—God. For example, mathematical models can be viewed as certain and objective, even after considering their limitations. Mathematical models can be manipulated and adjusted in both positive and negative ways. The restrictions of what a model can and cannot inform us about are not always considered or brought to the forefront. Sinful desires can lead people to use mathematical models in a misleading way, whether that is by not acknowledging the limitations of the model to the viewer or by manipulating the data in a model to say something more (or less) than what the data actually illustrates.

**Redemption:** Scripture is the standard against which all things, mathematical models included, are measured—not vice versa. Creation is complex and intricate. Humanity's modeling capability can be useful and an effective way to measure, predict, and understand God's creation. It must be understood, though, that they are not perfect tools. Instead, mathematical models are useful, though fallible, ways that people represent God's world. Models cannot provide ethical insight into decision making. God's Word provides the foundation and the boundaries for our guidance in all of life. Therefore, believers should seek to understand and describe God's creation through mathematical models, but they should also seek to do so in honest and clear ways.

## 3. Reasoning in Geometry

*Valid reasoning is necessary but insufficient to determine truth.*

**Creation:** God created humans with the power to learn, often by reasoning through circumstances and variables. God invites us to reason with Him (Isa. 43:26). We reason in a creaturely way, however, as opposed to the way God understands the world (cf. Isa. 55:8–9). Our skill of reasoning, similar to our modeling capabilities, can provide insight into God's creation, His work, and His character. As with anything creaturely, human reasoning has limitations. Rather than determining truth, human reasoning demonstrates consistency with assumptions (i.e., validity).

**Fall:** Because of sin, humanity often twists this gift of reasoning. Fallen humanity has come to view reason—mathematical deduction included—as a means of discovering truth. Those who take this view tend to make mathematical reasoning into an idol. Valid mathematical reasoning is a great tool to reach valid conclusions as long as both its usefulness and limitations are recognized.

**Redemption:** A biblical view of reasoning acknowledges its remarkable strengths while also noting its limitations. There must be balance. For example, the chief strength of humanity's ability to reason is in noting inconsistencies and contradictions. On the other hand, humanity, through reason, cannot discover truth but can only demonstrate validity. Reasoning helps one to see how even valid mathematical deduction can produce untrue conclusions. In such occurrences, locating untrue assumptions that are to blame for the faulty conclusion is a must.

## 4. Geometry & Design
*The world possesses characteristics of evident design.*

**Creation:** God created and sustains a world that reveals something of what He is like (Ps. 19:1; Rom. 1:20; Heb. 1:3). Mathematical modeling and reasoning are possible because we live in an orderly world, and we are image-bearers of its Creator. The order and complexity of the world also points out the marvels of God's creativity. Geometry is helpful in describing some of the patterns seen throughout the world. As geometry sheds light on and describes the evident design in the world, mathematics ultimately points to the glory of God in His creation.

**Fall:** Fallen humanity suppresses the truth of God's existence and of creation's evidence of a divine Creator (Ps. 14:1). Instead of recognizing that mathematical patterns and proofs point to a Creator, some have argued the world's apparent design is a result of natural processes by chance. People use mathematical laws and principles which describe the order and complexity of the world to explain the world apart from God rather than in worship of Him.

**Redemption:** The believer's identification of design through various mathematical means should be a cause for contemplating the attributes of God. The identification and description of the world's design should lead the believer to praise God. Because of the Fall, there are pitfalls in this pursuit to praise God as Designer. It can be easy to praise the design over and above the Designer, for instance. Yet, believers are called to praise God in all their pursuits (1 Cor. 10:31; Col. 3:17, 23). The world's mathematical patterns and design declare His excellencies (Ps. 19:1; 50:6; 89:5), and believers are called to proclaim His excellencies to the people around the world (1 Pet. 2:9).

## 5. Geometry & Ethics
*Learning and practicing mathematics can be done in both moral and immoral ways.*

**Creation:** God desires close communion with His creation and wants His image-bearers to live with Him in accordance with His Word (Micah 6:8). God has also called humanity to subdue and have dominion over the earth (Gen. 1:28). This dominion, however, is not unlike God's care over His creation. Just as the Lord is gracious and compassionate (Isa. 30:18; James 5:11), He calls believers to love fellow image-bearers as themselves (Lev. 19:18). This, in turn, leads to the pursuit of others' wellbeing above and beyond their own (1 Cor. 10:24). The study and application of geometry must keep in mind the moral aspect inherent in the discipline; math equips people to subdue and have dominion over the earth.

**Fall:** The Fall makes selfish ambition easier and more desirable than the service of others. Unfortunately, this means even mathematics is used as a tool for those sinful ambitions. Mathematics can be studied and applied in a way that undermines the authority of God and doesn't show love to image-bearers of God. Humanity's undermining of God's authority often comes as people value themselves over the image of God in all people (Phil. 2:21; 2 Tim. 3:2).

**Redemption:** The study and application of mathematics must be approached in a way that both honors God and illustrates love to one's neighbor. For the believer, this concept is nonnegotiable. Mathematics equips believers in practical ways to honor God and love their neighbor. The ability to describe God's creation in geometric ways and use that knowledge in service of others is a gift from God. That gift, although marred by the Fall, should still be pursued with joy—a joy which ultimately comes from the Lord as well (Eccles. 2:24–26).