

# ACADEMIC EXCELLENCE

## Biblical Worldview Shaping in Fundamentals of Math

What is math? Is it created or discovered? Is it real—or just a clever game? In keeping with a biblical worldview that God is creator and ruler of all things, we define mathematics as "a human activity exploring the numerical and spatial aspects of God's creation." Throughout the book, we explore this concept from five different perspectives: knowledge, modeling, reasoning, design, and ethics. By asking and answering questions like those posed below, as they arise in mathematical context, **FUNDAMENTALS OF MATH, Third Edition**, leads students to think biblically about mathematics.

### Knowledge

God manifests His absolute knowledge and authority, in part, through naming. Man, made in the image of God, also names by His authority and in dependence on Him. However, fallen man rejects God's authority and seeks to make himself the measure of all things. In mathematics, this is often evidenced by either the deification of man (as the creator of mathematics) or the deification of mathematics (as the source of absolute truth.)

How does naming point to Scripture as the foundation of mathematics?  
What are the limits of mathematics?

### Modeling

Mathematical modeling is possible because God created an orderly universe. Man's ability to model effectively often leads him to use his own models as standards for truth. But models are only as good as the assumptions they are based on. Models especially complex models—must be checked for underlying assumptions.

What is the underlying assumption of every model?  
How can mathematical models be biased?  
How do assumptions affect the objectivity of a model?

### Reasoning

God made man to reason in orderly ways. Since mathematics is very good at testing consistency through orderly reasoning, man often interprets these



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conclusions as truth. But reasoning only determines consistency with the initial assumptions and not whether the initial assumptions are true or false. Consistency is necessary but not sufficient to determine truth.

- How would you respond to the statement "The numbers never lie"?
- How does mathematical consistency relate to determining truth?

### Design

Our ability to recognize patterns and model them mathematically is evidence of God's design. Man, in his arrogance, sometimes uses this ability to describe patterns mathematically as a reason to question the necessity of a designer. Recognizing design in creation through the study of mathematics should cause us to give glory to God.

- Why should we expect to find consistent patterns in the world?
- How does studying probability help us glorify God?

### Ethics

Mathematics is a powerful tool for serving God and loving others. Unfortunately, people often manipulate percentages and other mathematical representations in unethical ways. We must be careful not to intentionally or unintentionally use mathematics to mislead others.

- How can accurate data be portrayed in an unethical manner?
- How can the ethical use of statistics help me to love my neighbor?

These are the biblical worldview themes that are used in Fundamentals of Math to help students think biblically about mathematics. Early in the course, the students will recall and explain these themes. However, as these themes are repeated, the students will evaluate ideas within the themes, formulate a biblical understanding of them, and apply what they have learned about these themes to real-world situations. High levels of internalization are expected whenever the students are required to apply their learning.

