Introduction to the Program

Introduction

The *Georgia Standards of Excellence Geometry Program* is a complete set of materials developed around the Mathematics Georgia Standards of Excellence (GSE) and the GSE Curriculum Map for High School Geometry. Topics are built around accessible core curricula, ensuring that the *GSE Geometry Program* is useful for striving students and diverse classrooms.

This program realizes the benefits of exploratory and investigative learning and employs a variety of instructional models to meet the learning needs of students with a range of abilities.

The *GSE Geometry Program* includes components that support problem-based learning, instruct and coach as needed, provide practice, and assess students' skills. Instructional tools and strategies are embedded throughout.

The set of unit materials or digital version of the program includes:

- More than 150 hours of lessons, addressing the six units of GSE Geometry
- Essential Questions for each instructional topic
- Vocabulary
- Instruction and Guided Practice
- Problem-based Tasks and Coaching questions
- Step-by-step graphing calculator instructions for the TI-Nspire and the TI-83/84

Purpose of Materials

The *GSE Geometry Program* has been organized to coordinate with the GSE Geometry curriculum map. Each lesson includes activities that offer opportunities for exploration and investigation. These activities incorporate concept and skill development and guided practice, then move on to the application of new skills and concepts in problem-solving situations. Throughout the lessons and activities, problems are contextualized to enhance rigor and relevance.

PROGRAM OVERVIEW
Introduction to the Program

This program includes all the topics addressed in the GSE Geometry curriculum map. These include:

- Transformations in the Coordinate Plane
- Similarity, Congruence, and Proof
- Right Triangle Trigonometry
- Circles and Volume
- Geometric and Algebraic Connections
- Applications of Probability

Eight Standards for Mathematical Practice are infused throughout and are as follows:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Structure of the Teacher Resource

The *GSE Geometry Program* materials are completely reproducible. The Program Overview is the first section. Written for you, this section helps you to navigate the materials, offers a collection of graphic organizers and suggested strategies for their use, and shows how the lessons correlate to the Georgia Standards of Excellence and the GSE Curriculum Map for High School Geometry.

The remaining materials focus on content, knowledge, and application of the six units in the GSE Geometry curriculum: Transformations in the Coordinate Plane; Similarity, Congruence, and Proof; Right Triangle Trigonometry; Circles and Volume; Geometric and Algebraic Connections; and Applications of Probability. The units in the *GSE Geometry Program* are designed to be flexible so that you can mix and match activities as the needs of your students and your instructional style dictate.

Each lesson begins with a pre-assessment and ends with a progress assessment. These allow you to assess students' progress as you move from lesson to lesson, enabling you to gauge how well students have understood the material and to differentiate as appropriate.

Glossary

The Glossary contains vocabulary terms and formulas from throughout the program, organized alphabetically. Each listing provides the term and the definition in both English and Spanish.