

Geometry

State Standard Number	State Standard Area/Description	Unit Name	Course Topic Description
3108.1	Mathematical Processes		
CLE 3108.1.1	Use mathematical language, symbols, definitions, proofs and counterexamples correctly and precisely in mathematical reasoning.	Dispersed throughout all units	
CLE 3108.1.2	Apply and adapt a variety of appropriate strategies to problem solving, including testing cases, estimation, and then checking induced errors and the reasonableness of the solution.	Dispersed throughout all units	
CLE 3108.1.3	Develop inductive and deductive reasoning to independently make and evaluate mathematical arguments and construct appropriate proofs; include various types of reasoning, logic, and intuition.	Introduction to Proof Triangles Quadrilaterals and Polygons	Reasoning in Geometry; Informal and Two Column Proofs Congruent Triangles All Sections
CLE 3108.1.4	Move flexibly between multiple representations (contextual, physical written, verbal, iconic/pictorial, graphical, tabular, and symbolic), to solve problems, to model mathematical ideas, and to communicate solution strategies.	Dispersed throughout all units	
CLE 3108.1.5	Recognize and use mathematical ideas and processes that arise in different settings, with an emphasis on formulating a problem in mathematical terms, interpreting the solutions, mathematical ideas, and communication of solution strategies.	Dispersed throughout all units	
CLE 3108.1.6	Employ reading and writing to recognize the major themes of mathematical processes, the historical development of mathematics, and the connections between mathematics and the real world.	Dispersed throughout all units in the writing assignments	
CLE 3108.1.7	Use technologies appropriately to develop understanding of abstract mathematical ideas, to facilitate problem solving, and to produce accurate and reliable models.	Dispersed throughout all units with Geometer's Sketchpad activities in every section and interactive web sites in several sections	

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3108.2	Number & Operations		
CLE3108.2.1	Establish the relationships between the real numbers and geometry; explore the importance of irrational numbers to geometry.	Introduction to Geometry	Measuring Segments
CLE3108.2.2	Explore vectors as a numeric system, focusing on graphic representations and the properties of the operation.		
CLE3108.2.3	Establish an ability to estimate, select appropriate units, evaluate accuracy of calculations and approximate error in measurement in geometric settings.	Introduction to Geometry	Measuring Segments; Rays and Angles
3108.3	Algebra		
CLE 3108.3.1	Use analytic geometry tools to explore geometric problems involving parallel and perpendicular lines, circles, and special points of polygons.	Introduction to Geometry Lines and the Coordinate Plane Circles	Parallel and Perpendicular Lines The Coordinate Plane; Slope of a Line; Graphing the Equation of a Line Equations of a Circle
CLE 3108.3.2	Explore the effect of transformations on geometric figures and shapes in the coordinate plane.	Transformations	All Sections
3108.4	Geometry & Measurement		
CLE 3108.4.1	Develop the structures of geometry, such as lines, angles, planes, and planar figures, and explore their properties and relationships.	Introduction to Geometry Triangles Quadrilaterals and Polygons Circles	All Sections Introduction to Triangles; Triangle Inequalities All Sections Special Segments in Circles
CLE 3108.4.2	Describe the properties of regular polygons, including comparative classification of them and special points and segments.	Triangles Quadrilaterals and Polygons Similarity	Introduction to Triangles All Sections Similar Triangles; Similar Polygons

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CLE 3108.4.3	Develop an understanding of the tools of logic and proof, including aspects of formal logic as well as construction of proofs.	Introduction to Proof Triangles Quadrilaterals and Polygons	Reasoning in Geometry; Informal and Two Column Proofs Congruent Triangles All Sections
CLE 3108.4.4	Develop geometric intuition and visualization through performing geometric constructions with straightedge/compass and with technology.	Dispersed throughout all units with constructions and activities in Geometer's Sketchpad in every section	
CLE 3108.4.5	Extend the study of planar figures to three-dimensions, including the classical solid figures, and develop analysis through cross-sections.	Surface Area and Volume	All Sections
CLE 3108.4.6	Generate formulas for perimeter, area, and volume, including their use, dimensional analysis, and applications.	Triangles Quadrilaterals and Polygons Similarity Surface Area and Volume	Perimeter and Area of Triangles Parallelograms; Squares, Rectangles and Rhombi; Trapezoids and Kites Similar Polygons All Sections
CLE 3108.4.7	Apply the major concepts of transformation geometry to analyzing geometric objects and symmetry.	Transformations	All Sections
CLE 3108.4.8	Establish processes for determining congruence and similarity of figures, especially as related to scale factor, contextual applications, and transformations.	Introduction to Geometry Triangles Similarity	Rays and Angles Congruent Triangles All Sections
CLE 3108.4.9	Develop the role of circles in geometry, including angle measurement, properties as a geometric figure, and aspects relating to the coordinate plane.	Circles	All Sections

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CLE 3108.4.10	Develop the tools of right triangle trigonometry in the contextual applications, including the Pythagorean Theorem, Law of Sines and Law of Cosines.	Introduction to Proof Triangles Right Triangles and Trigonometry	Informal and Two Column Proofs Right Triangles and the Pythagorean Theorem All Sections
3108.5	Data Analysis, Statistics, & Probability		
CLE 3108.5.1	Analyze, interpret, employ and construct accurate statistical graphs.		
CLE 3108.5.2	Develop the basic principles of geometric probability.		