

Cord Geometry, Mathematics in Context, 3rd edition
correlation to Tennessee Geometry Course Level Expectations

Course Level Expectations	Cord Geometry Lesson(s)
Standard 1 – Mathematical Processes	
CLE 3108.1.1 Use mathematical language, symbols, definitions, proofs and counterexamples correctly and precisely in mathematical reasoning.	Mathematical language and symbols are used throughout the text. Definitions are highlighted in yellow throughout the text. Proofs and counterexamples are covered in Lessons 2.1, 2.5, 2.6, 2.7, 2.8, 3.2, 3.6, and 7.5.
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.	Problem solving is demonstrated throughout the text in examples, problem solving features, and application questions. Problem solving features are included in Lessons 1.4, 2.6, 3.5, 4.5, 8.3, and 10.4.
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.	Lessons 2.1, 2.2, 2.3, 2.4
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.	Various representations of mathematical ideas are used throughout the text in examples, exercises, labs, and application questions.
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.	These expectations are met throughout the book, specifically in the labs and math applications included in each Chapter.
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.	Cultural Connections are included throughout the text which focuses on mathematical themes and math in history, and are included in Lessons 1.5, 2.8, 3.1, 7.5, and 9.4. Connections between math and the real world are also included in the Math Applications section of each Chapter.

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.

Technology is used throughout the text in labs and could be used by students to complete some of the suggested project ideas. Specifically, technology is used in the following labs: Calculating Angle of Stairs, Drawing Basic Constructions, Overlapping Segments, Perpendicular Lines, Exterior Angles Indirect Proof, The Triangle Inequality Theorem, Pythagorean Theorem and Special Right Triangles, Exterior and Interior Angles of Polygons, Two-Dimensional Coordinates with Stairs, Parallel and Perpendicular Lines, Measuring Distances with a Cylinder, Approximating π , Intercepted Arcs, Isometric and Perspective Drawings, and Reflections, Translations, and Rotations.

Standard 2 – Number & Operations	
CLE 3108.2.1 Establish the relationships between the real numbers and geometry; explore the importance of irrational numbers to geometry.	Lessons 5.1, 5.2
CLE 3108.2.2 Explore vectors as a numeric system, focusing on graphic representations and the properties of the operation.	Lesson 7.2
CLE 3108.2.3 Establish an ability to estimate, select appropriate units, evaluate accuracy of calculations and approximate error in measurement in geometric settings.	Lessons 1.2, 1.3, 4.4
Standard 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.	Lessons 7.1, 7.3, 7.4, 7.5, 7.6, 9.1
CLE 3108.3.2 Explore the effect of transformations on geometric figures and shapes in the coordinate plane.	Lessons 11.1, 11.2, 11.3, 11.4, 11.5, 11.7
Standard 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.	Lessons 1.1, 1.2, 1.3, 1.4, 1.5
CLE 3108.4.2 Describe the properties of regular polygons, including comparative classifications of them and special points and segments.	Lessons 6.1, 6.2, 6.3, 6.4, 6.5, 6.6
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.	Lessons 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8

<p>CLE 3108.4.4 Develop geometric intuition and visualization through performing geometric constructions with straightedge/compass and with technology.</p>	<p>Lesson 1.4 and the following Math labs: Drawing Basic Constructions, Overlapping Segments, Perpendicular Lines, Exterior Angles Indirect Proof, The Triangle Inequality Theorem, Pythagorean Theorem and Special Right Triangles, Exterior and Interior Angles of Polygons, Parallel and Perpendicular Lines, Approximating π, Intercepted Arcs, Isometric and Perspective Drawings, and Reflections, Translations, and Rotations.</p>
<p>CLE 3108.4.5 Extend the study of planar figures to three-dimensions, including the classical solid figures, and develop analysis through cross-sections.</p>	<p>Lessons 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9</p>
<p>CLE 3108.4.6 Generate formulas for perimeter, area, and volume, including their use, dimensional analysis, and applications.</p>	<p>Lessons 6.1, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8</p>
<p>CLE 3108.4.7 Apply the major concepts of transformation geometry to analyzing geometric objects and symmetry.</p>	<p>Lessons 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7</p>
<p>CLE 3108.4.8 Establish processes for determining congruence and similarity of figures, especially as related to scale factor, contextual applications, and transformations.</p>	<p>Lessons 3.4, 3.5, 3.6, 3.7, 4.2, 4.3, 4.4, 4.5</p>
<p>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.</p>	<p>Lessons 9.1, 9.2, 9.3, 9.4, 9.5</p>
<p>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.</p>	<p>Lessons 5.2, 5.3, 5.4, 5.5, 5.6</p>
<p>Standard 5 – Data Analysis, Statistics, & Probability</p>	
<p>CLE 3108.5.1 Analyze, interpret, employ and construct accurate statistical graphs.</p>	<p>Covered in CORD’s Algebra 1 textbook – Material available for free download at: www.cordcommunications.com</p>
<p>CLE 3108.5.2 Develop the basic principles of geometric probability.</p>	<p>Lesson 8.7</p>