## Cord Geometry, Mathematics in Context, 3rd edition correlation to South Carolina Geometry Indicators

Indicators	Cord Geometry Lesson(s)	
Standard G-1: The student will understand and utilize the mathematical processes		
of problem solving, reasoning and proof, communication, connections, and		
representation.		
<b>G-1.1</b> Demonstrate an understanding of the	Covered throughout the	
axiomatic structure of geometry by using	textbook, especially in	
undefined terms, definitions, postulates,	Chapters 1 and 2.	
theorems, and corollaries.		
G-1.2 Communicate knowledge of geometric	Covered throughout the	
relationships by using mathematical terminology	textbook.	
appropriately.		
<b>G-1.3</b> Apply basic rules of logic to determine	2.3	
the validity of the converse, inverse, and		
contrapositive of a conditional statement		
<b>G-1.4</b> Formulate and test conjectures by using a	Covered throughout the	
variety of tools such as concrete models,	textbook, especially in Math	
graphing calculators, spreadsheets, and dynamic	Labs sections at the end of each	
geometry software.	chapter.	
<b>G-1.5</b> Use inductive reasoning to formulate	2.1	
conjectures.		
G-1.6 Use deductive reasoning to validate	2.2, 2.4, 2.5, 2.6	
conjectures with formal and informal proofs, and		
give counterexamples to disprove a statement		
<b>G-1.7</b> Understand the historical development of	Covered throughout the	
geometry.	textbook in Cultural	
	Connections features on pages	
	37, 115, 147, 420, 543.	
<b>G-1.8</b> Connect geometry with other branches of	Covered throughout the	
mathematics.	textbook, especially in Math	
	Applications sections at the end	
	of each chapter.	
<b>G-1.9</b> Demonstrate an understanding of how	Covered throughout the	
geometry applies to in real-world contexts	textbook, especially in Math	
(including architecture, construction, farming,	Applications sections at the end	
and astronomy).	of each chapter.	
G-1.10 Demonstrate an understanding of	Covered throughout the	
geometric relationships (including constructions	textbook, especially in Activities	
through investigations by using a variety of tools	within most lessons and in the	
such as straightedge, compass, Patty Paper,	Math Labs sections at the end of	
dynamic geometry software, and handheld	each chapter.	
computing devices).		

Indicators	Cord Geometry Lesson(s)
Standard G-2: The student will demonstrate through the mathematical processes an	
understanding of the properties of basic geometric figures and the relationships	
between and among them.	
G-2.1 Infer missing elements of visual or	2.1, 5.3, 6.2
numerical geometric patterns (including	
triangular and rectangular numbers and the	
number of diagonals in polygons).	
<b>G-2.2</b> Apply properties of parallel lines,	1.5, 2.7, 2.8
intersecting lines, and parallel lines cut by a	
transversal to solve problems.	
G-2.3 Use the congruence of line segments and	1.2, 1.3, 2.7, 2.8
angles to solve problems.	
G-2.4 Use direct measurement to determine the	1.2, 1.3, 7.1
length of a segment, degree of an angle, and	
distance from a point to a line.	
G-2.5 Carry out a procedure to create geometric	1.4
constructions (including the midpoint of a line	
segment, the angle bisector, the perpendicular	
bisector of a line segment, the line through a	
given point that is parallel to a given line, and	
the line through a given point that is	
perpendicular to a given line).	
<b>G-2.6</b> Use scale factors to solve problems	8.6, 11.7
involving scale drawings and models.	
G-2.7 Use geometric probability to solve	8.7
problems.	

Indicators	Cord Geometry Lesson(s)	
Standard G-3: The student will demonstrate through the mathematical processes an		
understanding of the properties and special segments of triangles and the		
relationships between and among triangles.		
<b>G-3.1</b> Carry out a procedure to compute the	6.1, 8.2	
perimeter of a triangle.		
<b>G-3.2</b> Carry out a procedure to compute the	8.2	
area of a triangle.		
<b>G-3.3</b> Analyze how changes in dimensions	8.6	
affect the perimeter or area of triangles.		
<b>G-3.4</b> Apply properties of isosceles and	3.7	
equilateral triangles to solve problems.		
<b>G-3.5</b> Use interior angles, exterior angles,	3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7,	
medians, angle bisectors, altitudes, and	3.8	
perpendicular bisectors to solve problems.		
<b>G-3.6</b> Apply the triangle sum theorem to solve	3.1	
problems.		
<b>G-3.7</b> Apply the triangle inequality theorem to	3.3	
solve problems.		
<b>G-3.8</b> Apply congruence and similarity	3.4, 3.5, 3.6, 4.3, 4.4, 4.5	
relationships among triangles to solve problems.		
<b>G-3.9</b> Apply theorems to prove that triangles	3.4, 3.5, 3.6, 4.3, 4.4, 4.5	
are either similar or congruent.		
G-3.10 Use the Pythagorean theorem and its	5.2	
converse to solve problems.		
<b>G-3.11</b> Use the properties of 45-45-90 and 30-	5.3	
60-90 triangles to solve problems.		
G-3.12 Use trigonometric ratios (including sine,	5.4, 5.5	
cosine, and tangent) to solve problems involving		
right triangles.		

Indicators	Cord Geometry Lesson(s)
Standard G-4: The student will demonstrate through the mathematical processes an	
understanding of the properties of quadrilaterals and other polygons and the	
relationships between and among them.	
G-4.1 Carry out a procedure to compute the	8.1, 8.2, 8.3, 8.4
perimeter of quadrilaterals, regular polygons, and	
composite figures.	
<b>G-4.2</b> Carry out a procedure to find the area of	8.1, 8.3, 8.4
quadrilaterals, regular polygons, and composite	
figures.	
<b>G-4.3</b> Apply procedures to compute measures	6.1, 6.2
of interior and exterior angles of polygons.	
<b>G-4.4</b> Analyze how changes in dimensions	8.6
affect the perimeter or area of quadrilaterals and	
regular polygons.	
<b>G-4.5</b> Apply the properties and attributes of	8.1, 8.3, 8.4, Chapter 8 Math
quadrilaterals and regular polygons and their	Applications
component parts to solve problems.	
G-4.6 Apply congruence and similarity	8.6
relationships among shapes (including	
quadrilaterals and polygons) to solve problems.	

Indicators	Cord Geometry Lesson(s)	
<b>Standard G-5:</b> The student will demonstrate through the mathematical processes an understanding of the properties of circles, the lines that intersect them, and the use		
of their special segments.		
<b>G-5.1</b> Carry out a procedure to compute the	8.5	
circumference of circles.		
G-5.2 Carry out a procedure to compute the	8.5	
area of circles.		
<b>G-5.3</b> Analyze how a change in the radius	8.5	
affects the circumference or area of a circle.		
G-5.4 Carry out a procedure to compute the	9.3	
length of an arc or the area of a sector of a circle.		
G-5.5 Apply the properties of the component	9.1, 9.2, 9.3, 9.4, 9.5, Chapter 9	
parts of a circle (including radii, diameters,	Math Applications	
chords, sectors, arcs, and segments) to solve		
problems.		
<b>G-5.6</b> Apply the properties of lines that	9.2, 9.3, 9.4, 9.5, Chapter 9	
intersect circles (including two secants, two	Math Applications	
tangents, and a secant and a tangent) to solve		
problems.		
<b>G-5.7</b> Apply the properties of central angles,	9.2, 9.3, 9.4, 9.5, Chapter 9	
inscribed angles, and arcs of circles to solve	Math Applications	
problems.		

Indicators	Cord Geometry Lesson(s)	
Standard G-6: The student will demonstrate through the mathematical processes an		
understanding of transformations, coordinate geometry, and vectors.		
G-6.1 Use the distance formula to solve	7.1	
problems.		
G-6.2 Use the midpoint formula to solve	7.1	
problems.		
G-6.3 Apply transformations—translation,	11.1,11.2, 11.3, 11.4, 11.5, 11.7	
reflection, rotation, and dilation—to figures in		
the coordinate plane by using sketches and		
coordinates.		
G-6.4 Apply transformations (including	Chapter 11 Math Lab 3	
translation and dilation) to figures in the		
coordinate plane by using matrices.		
G-6.5 Carry out a procedure to represent the	7.2	
sum of two vectors geometrically by using the		
parallelogram method.		
G-6.6 Carry out a procedure to determine the	7.2	
magnitude and direction of the resultant of two		
vectors by using a scale drawing and direct		
measurement.		
G-6.7 Carry out a procedure to compute the	7.2	
magnitude of the resultant of two perpendicular		
vectors by using the Pythagorean theorem.		
G-6.8 Carry out a procedure to determine the	7.2	
direction of the resultant of two perpendicular		
vectors by using a scale drawing and direct		
measurement.		

Indicators	Cord Geometry Lesson(s)	
Standard G-7: The student will demonstrate through the mathematical processes an		
understanding of the surface area and volume of three-dimensional objects.		
G-7.1 Carry out a procedure to compute the	10.3, 10.5	
surface area of three-dimensional objects		
(including cones, cylinders, pyramids, prisms,		
spheres, and hemispheres).		
<b>G-7.2</b> Carry out a procedure to compute the	104, 10.6	
volume of three-dimensional objects (including		
cones, cylinders, pyramids, prisms, spheres,		
hemispheres, and composite objects).		
<b>G-7.3</b> Analyze how changes in dimensions	10.8	
affect the volume of objects (including cylinders,		
prisms, and spheres).		
<b>G-7.4</b> Apply congruence and similarity	10.8	
relationships among geometric objects to solve		
problems.		
<b>G-7.5</b> Apply a procedure to draw a top view,	10.1	
front view, and side view of a three-dimensional		
object.		
<b>G-7.6</b> Apply a procedure to draw an isometric	10.1	
view of a three-dimensional object.		