Mathematics Textbook and Instructional Materials Correlation to the 2009 Geometry Standards of Learning and Curriculum Framework

Publisher Cord Communications **Text Cord Geometry, Learning in Context** **Copyright date 2009**

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2009 Geometry Standards of Learning	
STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and SE for Student Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
G.1 The student will construct and judge the validity of a logical argument consisting of a set of premises and a conclusion. This will include	
a) identifying the converse, inverse, and contrapositive of a conditional statement;	pp. 79–83 SE
b) translating a short verbal argument into symbolic form;	pp. 84–88 SE and pp. 89–94 SE

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c) using Venn diagrams to represent set relationships; and	pp. 79–83 SE and pp. 84–88 SE
d) using deductive reasoning.	pp. 73–78 SE, pp. 84–88 SE, pp. 89–94 SE, pp. 95–102 SE, pp. 103–109 SE, and pp. 110–118 SE

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and SE for Student Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
G.2 The student will use the relationships between angles formed by two lines cut by a transversal to	
a) determine whether two lines are parallel;	pp. 33–39 SE
b) verify the parallelism, using algebraic and coordinate methods as well as deductive proofs; and	pp. 110–118 SE
c) solve real-world problems involving angles formed when parallel lines are cut by a transversal.	pp. 110–118 SE, and p. 129 SE

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G.3 The student will use pictorial representations, including computer software, constructions, and coordinate methods, to solve problems involving symmetry and transformation. This will include	
a) investigating and using formulas for finding distance, midpoint, and slope;	pp. 384–390 SE, pp. 399–406 SE, and pp. 407–408 SE
b) applying slope to verify and determine whether lines are parallel or perpendicular;	pp. 407–415 SE
c) investigating symmetry and determining whether a figure is symmetric with respect to a line or a point; and	pp. 662–669 SE, and pp. 677–683 SE

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and SE for Student Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
d) determining whether a figure has been translated, reflected, rotated, or dilated, using coordinate methods.	pp. 662–669 SE, pp. 670–676 SE, pp. 677–683 SE, pp. 700–704 SE, and pp. 705–708 SE

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G.4 The student will construct and justify the constructions of	
a) a line segment congruent to a given line segment;	p. 26 SE
b) the perpendicular bisector of a line segment;	p. 27 SE
c) a perpendicular to a given line from a point not on the line;	p. 28 SE

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d) a perpendicular to a given line at a given point on the line;	p. 27 SE
e) the bisector of a given angle,	p. 29 SE
f) an angle congruent to a given angle; and	p. 28 SE
g) a line parallel to a given line through a point not on the given line.	Material covered in supplemental material. Available for free download at: www.cordcommunications.com.

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G.5 The student, given information concerning the lengths of sides and/or measures of angles in triangles, will	
a) order the sides by length, given the angle measures; These concepts will be considered in the context of real-world situations.	pp. 151–158 SE and pp. 203–204 SE
b) order the angles by degree measure, given the side lengths; These concepts will be considered in the context of real-world situations.	pp. 151–158 SE and pp. 203–204 SE
c) determine whether a triangle exists; and These concepts will be considered in the context of real-world situations.	pp. 159–163 SE

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d) determine the range in which the length of the third side must lie. These concepts will be considered in the context of real-world situations.	pp. 159–163 SE

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G.6 The student, given information in the form of a figure or statement, will prove two triangles are congruent, using algebraic and coordinate methods as well as deductive proofs.	pp. 164–169 SE, pp. 170–176 SE, p. 201 SE, p. 203 SE, and p. 207 SE

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G.7 The student, given information in the form of a figure or statement, will prove two triangles are similar, using algebraic and coordinate methods as well as deductive proofs.	pp. 222–228 SE, pp. 229–236 SE, and pp. 254–255 SE

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G.8 The student will solve real-world problems involving right triangles by using the Pythagorean Theorem and its converse, properties of special right triangles, and right triangle trigonometry.	pp. 275–281 SE, pp. 282–287 SE, pp. 288–294 SE, pp. 295–300 SE, pp. 301–307 SE, and pp. 312–321 SE

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G.9 The student will verify characteristics of quadrilaterals and use properties of quadrilaterals to solve real-world problems.	pp. 342–346 SE, pp. 347–352 SE, pp. 353–358 SE, pp. 359–364 SE, and pp. 370–377 SE

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and SE for Student Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
G.10 The student will solve real-world problems involving angles of polygons.	pp. 336–341 SE, p. 370 SE, and p. 372 SE

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G.11 The student will use angles, arcs, chords, tangents, and secants to	
a) investigate, verify, and apply properties of circles;	pp. 522–529 SE, pp. 539–546 SE, and pp. 547–553 SE
b) solve real-world problems involving properties of circles; and	pp. 522–529 SE, pp. 539–546 SE, pp. 547–553 SE, and pp. 567–573 SE
c) find arc lengths and areas of sectors in circles.	p. 490 SE and pp. 530–538 SE

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G.12 The student, given the coordinates of the center of a circle and a point on the circle, will write the equation of the circle.	pp. 516–521 SE

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G.13 The student will use formulas for surface area and volume of three-dimensional objects to solve real-world problems.	pp. 594–602 SE, pp. 603–609 SE, pp. 610–616 SE, pp. 617–621 SE, pp. 622–627 SE, p. 638 SE, p. 642 SE, and pp. 645–655 SE

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G.14 The student will use similar geometric objects in two- or three-dimensions to	
a) compare ratios between side lengths, perimeters, areas, and volumes;	pp. 483–487 SE and pp. 628–632 SE
b) determine how changes in one or more dimensions of an object affect area and/or volume of the object;	pp. 483–487 SE and pp. 628–632 SE
c) determine how changes in area and/or volume of an object affect one or more dimensions of the object; and	pp. 483–487 SE and pp. 628–632 SE

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STANDARD	**Correlation: Must address both the standards and the curriculum framework. Use page number and SE for Student Edition or CT for Core Technology. (Identify no more than 8 correlations.)**
d) solve real-world problems about similar geometric objects.	pp. 222–228 SE, pp. 229–236 SE, pp. 254–255 SE, and pp. 646 SE