Correlation of

GEOMETRY:
Mathematics in Context,
CORD Communications, © 2004
(1578373360)

to

Virginia's Standards of Learning for Geometry:
Mathematics Standards of Learning

STANDARD OF LEARNING	PAGE REFERENCES
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;	74–79, 80–84, 124–127, 132, 135, 136–137
b) translating a short verbal argument into symbolic form;	85–88,89–94, 95–102, 115–120, 124–127, 135, 136–137
c) using Venn diagrams to represent set relationships; and	85, 87, 127–128
d) using deductive reasoning, including the law of syllogism.	86, 87–88, 89, 92–94, 103–109, 123–135, 136–137, 194
G.2 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;	390–396, 397–403, 405–412, 429–437, 438–443, 444–453, 454–455
b) investigating symmetry and determining whether a figure is symmetric with respect to a line or a point; and	670–672, 685–687
c) determining whether a figure has been translated, reflected, or rotated.	666–673, 674–680, 681–687, 688–693, 698–704, 712–715, 721–728, 729–730
G.3 The student will solve practical problems involving complementary, supplementary, and congruent angles that include vertical angles, angles formed when parallel lines are cut by a transversal, and angles in polygons.	19–25, 26–34, 52, 56, 58, 65, 103–108, 110–114, 122, 148–153, 162–170, 186–187, 192, 200–201, 262–267, 291–292

STANDARD OF LEARNING	PAGE REFERENCES
G.4 The student will use the relationships between angles formed by two lines cut by a transversal to determine if two lines are parallel and verify, using algebraic and coordinate methods as well as deductive proofs.	155–161, 184–185, 190, 192–193, 196–198, 200–201
G.5 The student will	
a) investigate and identify congruence and similarity relationships between triangles; and	204–210, 218–223, 231–236, 237–241, 242–250, 251–253, 319–321, 322–330, 335–340, 371–372, 275–376, 379–385, 386–387
b) prove two triangles are congruent or similar, given information in the form of a figure or statement, using algebraic and coordinate as well as deductive proofs.	211–217, 224–230, 326–330
G.6 The student, given information concerning the lengths of sides and/or measures of angles, will apply the triangle inequality properties to determine whether a triangle exists and to order sides and angles. These concepts will be considered in the context of practical situations.	171–172, 175–178, 179–183, 188–189, 193, 195, 200–201
G.7 The student will solve practical problems involving right triangles by using the Pythagorean Theorem, properties of special right triangles, and right triangle trigonometry. Solutions will be expressed in radical form or as decimal approximations.	335–340, 341–347, 348–353, 354–360, 361–366, 369–370, 375, 377–385, 386–387
G.8 The student will	
a) investigate and identify properties of quadrilaterals involving opposite sides and angles, consecutive sides and angles, and diagonals;	268–272, 273–278, 279–284, 285–290, 293–296, 302–303, 305, 306–307
b) prove these properties of quadrilaterals, using algebraic and coordinate methods as well as deductive reasoning; and	275–276, 278, 424, 428
c) use properties of quadrilaterals to solve practical problems.	272, 283, 306–307, 285–290, 293–296

STANDARD OF LEARNING	PAGE REFERENCES
G.9 The student will use measures of interior and exterior angles of polygons to solve problems. Tessellations and tiling problems will be used to make connections to art, construction, and nature.	162–170, 186–187, 257, 262–266, 291–292, 694–697, 721–722
G.10 The student will investigate and solve practical problems involving circles, using properties of angles, arcs, chords, tangents, and secants. Problems will include finding arc length and the area of a sector, and may be drawn from applications of architecture, art, and construction.	481–486, 501–503, 508, 511, 514–515, 518–524, 525–532, 533–541, 542–549, 550–556, 564–570, 571–577, 578–579
G.11 The student will construct a line segment congruent to a given line segment, the bisector of a line segment, a perpendicular to a given line from a point not on the line, a perpendicular to a given line at a point on the line, the bisector of a given angle, and an angle congruent to a given angle.	36–43, 46–50, 59, 61, 65
G.12 The student will make a model of a three-dimensional figure from a two-dimensional drawing and make a two-dimensional representation of a three-dimensional object. Models and representations will include scale drawings, perspective drawings, blueprints, or computer simulations.	582–588, 589–595, 637–641, 642–646, 647–649, 650, 654, 661
G.13 The student will use formulas for surface area and volume of three-dimensional objects to solve practical problems. Calculators will be used to find decimal approximations for results.	596–604, 605–611, 612–618, 619–624, 626–631, 632–636, 647–649, 650–653, 655–660, 661–663
G.14 The student will	
a) use proportional reasoning to solve practical problems, given similar geometric objects; and	310–315, 316–322, 323–330, 331–333, 335–340, 367–369, 371–372, 373–385, 386–387
b) determine how changes in one dimension of an object affect area and/or volume of the object.	487–490, 632–636, 655