VIRGINIA BEACH CITY PUBLIC SCHOOLS
CHARTING THE COURSE

Department of Teaching & Learning
Parent/Student Course Information

GEOMETRY PART 2
(MA 3223)
One-half credit, One semester

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION
Geometry Part 2 is the second semester of a two-semester geometry sequence. The course is designed to help students understand the basic structure of geometry and apply geometric concepts and skills in authentic situations. The course focuses on the development of problem-solving skills and the acquisition of mathematical vocabulary and symbols. The active engagement of students along with the use of manipulatives and technology, such as computer programs and calculators, will allow students to develop an understanding of the geometric principles they are learning. Topics include similarity, right triangles, properties of circles, properties of transformations and area and volume. Students will gain an appreciation of the structure of geometry and develop powers of spatial visualization. **Students cannot receive credit for both Geometry Part 2 and Geometry Honors (MA 3225).**

PREREQUISITE
Geometry Part 1

OPTIONS FOR NEXT COURSE
Algebra II or Algebra, Functions and Data Analysis

REQUIRED TEXTBOOK
Glencoe Geometry (Virginia Edition). John A. Carter, Ph.D., Gilbert J. Cuevas, Ph.D., Roger Day, Ph.D., and Carol Malloy, Ph.D. Glencoe McGraw-Hill (2012)

RECOMMENDED CALCULATOR
TI-83 Plus, TI-84 Plus, TI-84 Plus C or TI-84 Plus CE

Students should purchase a compass, ruler and protractor.

Virginia Beach Instructional Objectives
Geometry Part 2 – MA 3223

VBO#	Objective
	Unit 6: Right Triangles
GP2.TR.6.1	The student will use the Pythagorean Theorem and its converse to solve problems and recognize Pythagorean triples. **(SOL G.8)**
GP2.TR.6.2	The student will apply properties of special right triangles to real world problems and find decimal approximations for the solutions. **(SOL G.8)**
GP2.TR.6.3	The student will solve real world problems using sine, cosine and tangent functions of acute angles in right triangles. **(SOL G.8)**
	Unit 7: Polygons and Quadrilaterals
GP2.PC.7.1	The student will use measurements of interior and exterior angles of convex and regular polygons to solve problems. **(SOL G.10)**
GP2.PC.7.2	The student will classify a given quadrilateral as a parallelogram, rectangle, rhombus, square or trapezoid according to its properties and justify the conclusion. **(SOL G.9)**
GP2.PC.7.3	The student will investigate and identify properties of quadrilaterals and use them to solve real world problems and prove properties of quadrilaterals using algebraic and coordinate methods as well as deductive proofs. **(SOL G.9)**
	Unit 8: Circles
GP2.PC.8.1	The student will investigate and use the properties of angles, arcs, chords, tangents and secants including: defining, identifying and using standard notation for chord, secant, tangent, major and minor arc, intercepted arc and central and inscribed angle; defining congruent arcs, congruent circles, concentric circles and common tangent; constructing an equilateral triangle, a square and a regular hexagon inscribed in a circle; and constructing the inscribed and circumscribed circles of a triangle. **(SOL G.4. G.9. G.11 a)**
GP2.PC.8.2	The student will apply properties of circles to real world problems including: solving problems using angles formed by radii, chords, secants, tangents; solving problems using the lengths of arcs, chords, secant segments and tangent segments; and constructing a tangent line from a point outside a given circle to the circle. **(SOL G.4, G.11 a, b, c)**
GP2.PC.8.3	The student will calculate circumference and arc length and relate measures of central angles to fractions of a circle. **(SOL G.11 c)**
GP2.PC.8.4	The student, given the coordinates of the center of a circle and a point on the circle, will write the equation of the circle. **(SOL G.12)**
	Unit 9: Area and Volume
GP2.PC.9.1	The student will calculate the area of a triangle, rectangle, rhombus, square, trapezoid and parallelogram and apply this knowledge to find the area of other polygons. **(SOL G.14)**
GP2.PC.9.2	The student will calculate area of a circle and area of a sector of a circle given the measure of its central angle. **(SOL G.11 b, c)**
GP2.3D.9.3	The student will calculate the lateral area, surface area and volume of three-dimensional objects. **(SOL G.13)**
GP2.3D.9.4	The student will calculate the ratio of the areas or the volumes of similar figures in terms of the ratio of the sides or perimeters and investigate relationships between linear, square and cubic measures of similar geometric objects and describe how changes in one measure affect the others, including real world applications. **(SOL G.14 a, b, c, d)**
	Unit 10: Transformations
GP2.RL.10.1	The student will determine the image of a figure under a dilation, reflection, rotation or translation, including defining image, preimage, mapping and isometry. Identification of transformations in the coordinate plane will be included. **(SOL G.3 c, d)**
GP2.RL.10.2	The student will determine if a figure has point or line symmetry and identify how many lines of symmetry exist. **(SOL G.3c)**
	Unit 11: Geometry Extensions and Advanced Algebra Concepts
GP2.TR.11.1	The student will solve real world problems using the Laws of Sines and Cosines.

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For further information please call (757) 263-1070.

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To seek resolution of grievances resulting from alleged discrimination or to report violations of these policies, please contact the Title VI/Title IX Coordinator/Director of Student Leadership at (757) 263-2020, 1413 Laskin Road, Virginia Beach, Virginia, 23451 (for student complaints) or the Section 504/ADA Coordinator/Chief Human Resources Officer at (757) 263-1133, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (for employees or other citizens). Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Laskin Road Annex, 1413 Laskin Road, Virginia Beach, Virginia, 23451.

Alternative formats of this publication which may include taped, Braille, or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email him at Emmanuel.Cenizal@VBSchools.com

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