ALGEBRA I PART 2

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

Algebra I Part 2 is the second semester course of a two-semester algebra sequence. The course is designed to help students understand the basic structure of algebra and acquire proficiency in applying algebraic 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 calculators, computers, and spreadsheets, will allow students to develop an understanding of the mathematical principles they are learning. Facility in the use of technology will not be a substitute for students' understanding of quantitative concepts and proficiency in computations. Topics include systems of equations and inequalities; quadratic and exponential functions; polynomials; factoring; solving quadratic equations; statistics; and rational expressions. Students will engage in mathematical discourse with the teacher and other students. Students will take the Standards of Learning (SOL) test for Algebra I or a substitute test approved by the State Board of Education. Specific dates for the administration of the SOL test will be announced by the school. Students cannot receive credit for both Algebra I Part 2 and Algebra I Honors (MA3220).

PREREQUISITE

Algebra I Part 1

OPTION FOR NEXT COURSE

Geometry Part 1

REQUIRED STUDENT TEXTBOOK

Glencoe Algebra 1 (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 or TI-84 Plus

VBO #	Objective
Solving Systems of Equations	
A1P2.EQ.6.1	The student will solve systems of equations in two variables algebraically and graphically, using graphing calculators to verify solutions. **(SOL A.4 e)**
A1P2.EQ.6.2	The student will solve linear inequalities and systems of linear inequalities in two variables and use a graph to represent the solution set. **(SOL A.5 d)**
Laws of Exponents and Polynomials	
A1P2.EX.7.1	The student will apply the laws of exponents to perform operations on expressions, recognize the relationship between the laws of exponents and scientific notation, and apply scientific notation to real-world problems. **(SOL A.2 a)**
A1P2.EX.7.2	The student will add, subtract, and multiply polynomials and use polynomials to model real-world situations. **(SOL A.2 b, 2009)**
Factoring and Solving Quadratic Equations	
A1P2.EX.8.1	The student will factor completely first and second-degree binomials and trinomials in one or two variables. In addition, students will factor polynomials with four terms, using grouping. Graphing calculators will be used as a tool for factoring and for confirming algebraic factorizations. **(SOL A.2 c)**
A1P2.EQ.8.2	The student will solve a quadratic equation in one-variable using factoring and apply quadratics to real world problems. **(SOL A.4 c)**
A1P2.EX.8.3	The student will find the quotient of polynomials, using a monomial or binomial divisor, or a completely factored divisor. **(SOL A.2b)**
Quadratic Functions and Curve Fitting	
A1P2.FN.9.1	The student will graph quadratic functions in two variables, identify the domain and range, the vertex, the zero(s) of the quadratic function, and use transformations of the parent function, $y = x^2$, to identify the graphs of transformed quadratic equations. **(SOL A.7)**
A1P2.EQ.9.2	The student will solve a quadratic equation in one variable using graphing, square roots, the quadratic equation, and completing the square and use quadratic equations to solve real-world problems. **(SOL A.4 c)**
A1P2.EX.9.3	The student will express the solutions of quadratic equations as simplified square roots. Students will express the square root of a monomial algebraic expression in simplest radical form. **(SOL A.3)**
A1P2.ST.9.4	The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve real-world problems, using mathematical models. **(SOL A.11)**
Statistics	
A1P2.ST.10.1	The student will compare and contrast multiple univariate data sets, using box-and-whisker plots. **(SOL A.10)**
A1P2.ST.10.2	The student, given a set of data, will interpret variation in real-world contexts and calculate and interpret mean absolute deviation, standard deviation, and z-scores. **(SOL A.9)**
Rational Expressions and Equations	
A1P2.EX.11.1	The student will simplify a rational expression, determine restrictions and excluded values for a rational expression, multiply and divide rational expressions, graph rational functions, and solve equations containing rational expressions.

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VIRGINIA BEACH CITY PUBLIC SCHOOLS
A H E A D   O F   T H E   C U R V E

MISSION STATEMENT
The Virginia Beach City Public Schools, in partnership with the entire community, will empower every student to become a life-long learner who is a responsible, productive and engaged citizen within the global community.

Dr. James G. Merrill, Superintendent

DEPARTMENT OF CURRICULUM AND INSTRUCTION
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CIE-0005 (Revised 8/12)