



GREAT NECK PUBLIC SCHOOLS

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Curriculum Profile: Pre-Algebra 7

<u>Department</u>	Mathematics		
<u>Course Name</u>	Pre-Algebra 7		
<u>Course Length</u>	One Year		
<u>High School Credits</u>	N/A		
<u>Description</u>	Pre-Algebra 7 initially focuses on the same four critical domains of mathematical aptitude in Math 7: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and using those understandings to simplify expressions and solve linear equations; (3) working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) building upon knowledge of probability and statistics. However, this course moves at an accelerated pace and at greater depth. As such, students will also work with systems of equations, angle relationships, Pythagorean Theorem, and polynomials. This course is aligned with the New York State Next Generation Math Standards.		
<u>Target/eligible students</u>	7th graders on the accelerated mathematics track		
<u>State Learning Standards Link(s)</u>	NYS Math Standards		pgs. 90-104, 110-111
<u>Primary texts and materials</u>	N-Gen Math 7 and Math 8 (Emathinstruction), Glencoe Pre-Algebra		
<u>Scope/Sequence</u>	*Standards/Themes	Description (and location within the state learning standards document)	
<u>Unit 1: Operations with Signed Numbers</u>	NY-7.NS	Students will add, subtract, multiply, and divide all types of rational numbers, including negatives.	pg. 91
<u>Unit 2: Proportional Relationships</u>	NY-7.RP	Students build on their knowledge of ratio reasoning from 6th grade to understand that proportionality involves two variables with a constant ratio. Using that knowledge, students will write equations that model proportional relationships, graph proportional relationships on the coordinate plane, and solve word problems involving proportional reasoning.	pg.90
<u>Unit 3: Percents</u>	NY-7.RP NY-7.NS NY-7.EE	Students will apply percentages to real-world situations, including percent increase and decrease. Students will begin their work with percentages greater than 100 percent and between 0 and 1 percent.	pgs. 90-93
<u>Unit 4: Linear Expressions</u>	NY-7.EE	After reviewing the properties of mathematics (i.e. commutative) students will use those properties to simplify algebraic expressions. To end the unit, students will begin factoring algebraic expressions.	pgs. 92-93
<u>Unit 5: Linear Equations and Inequalities</u>	NY-7.EE	Students will solve two-step equations and inequalities using inverse operations, recognizing that checking the	pgs. 92-93

		solution is a key step in the process. Students will solve word problems that could be modeled with an equation or inequality.	
<u>Unit 6: Geometry</u>	NY-7.G	Students will be introduced to some properties of triangles and circles. Students will use formulas to calculate the area, surface area, and volume of two- and three-dimensional figures.	pgs.94-95
<u>Unit 7: Statistics</u>	NY-7.SP	Students will understand what makes a question statistical. They will draw inferences of populations based on samples, and understand appropriate ways to survey and display data.	pg. 96
<u>Unit 8: Probability</u>	NY-7.SP	Students will first understand that probability is always quantified between zero and one, inclusive. From there, students will calculate the probability of both single and compound events. Compound events may be either dependent or independent.	pg. 96
<u>Unit 9: Systems of Equations</u>	NY-8.EE	Students will recognize that the solution to a system of two linear equations is an ordered pair that makes both equations true simultaneously. They will solve systems of equations using graphing, substitution, and elimination methods. They will also model real-world situations using systems of equations.	pgs. 99-100
<u>Unit 10: Pythagorean Theorem</u>	NY-8.G	Students will use the Pythagorean Theorem to calculate missing side lengths of right triangles. They will use the converse of the Pythagorean Theorem to prove that a triangle is a right triangle. Finally, they will model real-world situations using the Pythagorean Theorem.	pgs. 102-103
<u>Unit 11: Geometry</u>	NY-8.G	Students will learn introductory geometric terminology, including how to name sides and angles. They will calculate missing angle measures based on angles' relationships with each other.	pg.102
<u>Unit 12: Polynomials</u>	AI-A	Students will add, subtract, multiply, divide, and factor polynomial expressions.	pgs. 110-111
<u>Additional Notes</u>			