

Planned Course of Study
ALGEBRA/GEOMETRY II
Grades 10/11

Mathematics Department
Salisbury Township School District
1140 Salisbury Road
Allentown, PA 18103

Course Description

Prerequisite: Algebra/Geometry I or Algebra IA

This course is the second course in a series of three courses designed for those students who 1) need a more concrete and integrated approach to the study of mathematics which allows for more practice and review of the standards and/or 2) have not demonstrated a high level of success on the 9th Grade Benchmark Test especially in the areas of algebraic concepts and geometry.

This course is designed to continue the development of basic ideas and structures of algebra, geometry, and data analysis/probability. The concepts taught include: algebraic number sense including direct and indirect variation, the affects of changes in linear dimensions on perimeter, areas, and volume, the properties of quadrilaterals, similarity and congruence in polygons, and their relationship to the Cartesian coordinate plane, solving and graphing of linear inequalities, analysis of data for algebraic patterns and lines of best fit, and probabilities for independent, dependent, and compound events.

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to utilize appropriate test taking strategies on the PSSA test.	Initially and throughout the course, test taking strategies will be taught and practiced. These strategies include 1) how to take a multiple choice test, 2) how to use the t-chart strategy when solving word problems, 3) how to identify extraneous information in a problem, 4) how to read and analyze a word problem, 5) how to read and comprehend graphs, charts, etc., 6) how to read and dissect questions and directions.	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	2.5.8.A 2.5.8.D
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> • <u>The Math Teacher's Book of Lists</u> 		<ul style="list-style-type: none"> • <u>Geometry</u> • <u>Informal Geometry</u> • <u>PSSA Mathematics Coach: Grade 11</u> 	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Literacy Objectives • Geometer's Sketchpad • Math Related Web Sites(i.e. NCTM, TI) 		<ul style="list-style-type: none"> • Graphing Calculators • Numb3rs TV Show 	

Algebra/Geometry II
Grade:10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to use writing as a tool to solve mathematical problems	<p>Students will re-write word problems in their own words, deciding what is meant by the question and verbalizing what steps must be taken to solve the problem.</p> <p>Students will use the t-chart strategy to explain steps in answering a question.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.5.8.B</p> <p>2.5.8.C</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> • <u>The Math Teacher’s Book of Lists</u> 		<ul style="list-style-type: none"> • <u>Geometry</u> • <u>Informal Geometry</u> • <u>PSSA Mathematics Coach: Grade 11</u> 	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Literacy Objectives • Geometer’s Sketchpad • Math Related Web Sites(i.e. NCTM, TI) 		<ul style="list-style-type: none"> • 	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to simplify square roots and radical algebraic expressions.</p>	<p>Students will use the technique of factoring out perfect squares from numerical expressions in order to simplify square roots.</p> <p>Students will use perfect squares and rules of exponents for simplifying radical algebraic expressions.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.1.8.A 2.1.8.B 2.1.11.A</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to add, subtract, multiply, and divide radical expressions.</p>	<p>The student will use rules for addition, subtraction, multiplication, and division of radicals to solve problems.</p> <p>The student will apply these techniques to perimeter and area of polygons.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.1.8.A 2.1.8.B 2.1.8.11.A 2.2.11.A 2.3.8.D 2.5.11.A</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
The student will be able to find the LCM and GCF of monomial expressions.	Using factor trees and other factoring techniques, students will dissect monomials in order to determine the LCM and GCF of two or more monomials.	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	2.1.8.A 2.1.8.E 2.1.11.A
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		Graphing Calculators Numb3rs TV Show	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
The student will be able to factor out the GCF of polynomial expressions.	The student will use techniques for finding the GCF of two or more monomial expressions in order to begin the process of factoring polynomials.	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	2.1.8.A 2.1.8.E 2.1.11.A
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<ul style="list-style-type: none"> <u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u> 	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<ul style="list-style-type: none"> Graphing Calculators Numb3rs TV Show 	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to add or subtract simple algebraic fractions by finding the LCM of their denominators.</p>	<p>Using the techniques for finding the LCM of monomial expressions, the student will add/subtract rational algebraic expressions.</p> <p>The student will apply these techniques to finding the perimeter of polygons.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.1.8.A 2.1.8.E 2.1.11.A 2.2.11.A</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to distinguish between direct and inverse variation and use them in problem solving situations.</p>	<p>Students will solve real world problems by identifying if a direct or inverse variation exists.</p> <p>Students will analyze graphs to determine if direct or inverse variation exists.</p> <p>Students will analyze data to determine if direct or inverse variation exists.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.2.11.A 2.8.11.P</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Student will be able to determine the measurement of a missing length given the perimeter, circumference, or area of polygons and/or circles.	<p>Given the perimeter, circumference, or area the student will use formulas and algebraic transformations to determine a missing length.</p> <p>Given real life problems students will be able to find a missing dimension if the perimeter, circumference, or area is known.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.3.8.A</p> <p>2.3.8.D</p> <p>2.9.11.G</p> <p>2.9.11.I</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to determine the missing length of a prism, pyramid, or sphere given its volume.</p>	<p>Given the volume, the student will use formulas and algebraic transformations to determine a missing length.</p> <p>Given real life problems students will be able to find a missing dimension if the volume is known.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.3.8.A 2.3.8.D 2.9.11.G 2.9.11.I</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to explain how a change in a linear dimension affects the perimeter, circumference, area, and volume of a geometric figure.</p>	<p>Using a spreadsheet, the students will explore what happens to the perimeter, circumference, area and volume of geometric shapes when there is a change in one of its linear dimensions.</p> <p>Using geometer’s sketchpad, the students will verify their conjectures about changes in linear dimensions and the change’s affect on perimeter, circumference and area.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.2.11.F 2.3.8.A 2.3.8.D 2.8.11.A 2.8.11.C 2.9.11.A</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to identify the properties of the various types of trapezoids and parallelograms.	<p>Using geometer’s sketchpad or Cabri Jr., students will explore and make conjectures about the properties of various quadrilaterals.</p> <p>Students will explain how the relationship among the sides and angles of a quadrilateral determine its specific name.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.9.8.D</p> <p>2.9.11.A</p> <p>2.9.11.C</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to use the properties of a quadrilateral to determine its specific type.	Given a set of properties, students will use direct proof methods to explain how to determine what type of quadrilateral is described.	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	2.4.11.A 2.9.8.D 2.9.11.C
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		Graphing Calculators Numb3rs TV Show	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to determine if two polygons, prisms, pyramids, or spheres are congruent.</p>	<p>Given the length of the sides and the measure of the angles, students will prove if the polygons or three dimensional figures are congruent.</p> <p>Given that two polygons or three dimensional figures are congruent, the students will find missing angle and side measures.</p> <p>Students will solve real life problems involving congruency (i.e. tessellations and tiling)</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.4.11.A 2.4.11.B 2.9.11.B 2.9.11.I</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>Students will be able to determine if two polygons, prisms, pyramids, or spheres are similar.</p>	<p>Given the length of the sides and the measure of the angles, students will prove if the polygons or three-dimensional figures are similar.</p> <p>Given that two polygons or three dimensional figures are similar, the students will find missing angle and side measures.</p> <p>Students will solve real life problems involving the similar polygons (i.e. indirect measurement) and three dimensional figures.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.4.11.A 2.4.11.B 2.9.11.B 2.9.11.I</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>The student will be able to determine the distance between two points on a number line or in the coordinate plane.</p>	<p>Students will look for patterns to make conjectures about how to find the distance between two points.</p> <p>Given any two points, the students will calculate the distance between them using the appropriate method.</p> <p>Given a polygon in a coordinate plane, the students will use the distance formula to narrow down the type of polygon it is based on side lengths.</p> <p>Students will use sketchpad to explore the relationship between the distance formula and the Pythagorean Theorem.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.4.11.A</p> <p>2.5.11.D</p> <p>2.8.11.A</p> <p>2.9.11.G</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Num3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>Students will be able to determine the midpoint of a segment on a number line or the coordinate plane.</p>	<p>Given segments, students will explore patterns to make conjectures about how to find their midpoint.</p> <p>Given a segment, students will use the appropriate method to find its midpoint.</p> <p>Given a polygon in the coordinate plane, students will use the midpoint formula to help determine specifically the type of polygon represented.</p> <p>Students will solve real life problems involving the use of midpoints.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.4.11.A</p> <p>2.5.11.D</p> <p>2.8.11.A</p> <p>2.8.11.J</p> <p>2.9.11.G</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>Students will be able to determine if lines are parallel or perpendicular using the slope of the lines.</p>	<p>Given many lines in a coordinate plane, students will look for patterns to make conjectures about how to determine if lines are parallel or perpendicular using their slopes.</p> <p>Given the slope of two lines, the students will identify them as parallel, perpendicular, or neither.</p> <p>Given a polygon in a coordinate plane, students will use the slope of the lines that contain the sides to help determine specifically what type of polygon.</p> <p>Students will solve real life problems involving slope and its relationship to parallel and perpendicular.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.4.11.A</p> <p>2.5.11.D</p> <p>2.8.11.A</p> <p>2.8.11.J</p> <p>2.9.11.G</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Num3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to analyze data algebraically for patterns.	<p>Given a set of ordered pairs, the student will be able to write an equation that describes the relationship between the ordered pairs.</p> <p>Given a table of numbers, the student will be able to write an equation that describes the relationship between the columns of numbers.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.8.11.A</p> <p>2.8.11.Q</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to analyze data graphically for patterns.	<p>Given sets of real life data, students will select appropriate graphs or charts to represent it and analyze it based on a particular audience.</p> <p>Students will be engaged in obtaining data from the internet, organizing it, and graphically representing it to analyze its usefulness to a population.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	2.2.11.F 2.5.11.B 2.8.11.A 2.8.11.Q
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		Graphing Calculators Numb3rs TV Show	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>Students will be able to graph the equations of lines in the coordinate plane.</p>	<p>Given sets of ordered pairs, the student will determine if they form a line.</p> <p>Given an equation of a line, the students will use a table to determine points that can be graphed to form the line.</p> <p>Given an equation of a line, the students will put it into slope intercept form to graph it.</p> <p>Using a graphing calculator, students will graph linear equations.</p> <p>Using geometer's sketchpad, students will look for patterns in linear equations.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.8.11.K</p> <p>2.8.11.L</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Num3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to match a table to its corresponding graph.	<p>Given a table of values, the student will be able to determine which graph the data represents.</p> <p>Given a graph, the student will be able to determine a set of ordered pairs that can be generated from it.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.8.11.A</p> <p>2.8.11.Q</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
Students will be able to find the probability of a compound event.	<p>Students will use tree diagrams to discover a pattern for finding the probability of a compound event.</p> <p>Using the formula to find the probability of a compound event, students will apply it to real life situations.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.7.11.D</p> <p>2.7.11.E</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u></p> <p><u>Informal Geometry</u></p> <p><u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators</p> <p>Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>Students will be able to find the equation for the line of best fit.</p>	<p>Given a scatter plot, students will be able to draw the line of best fit for the data.</p> <p>Given a scatter plot, students will be able to find the equation of the line of best fit of the data.</p> <p>Using spreadsheets, students will be able to put the data into a scatter plot and then create a line of best fit.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.6.11.C 2.6.11.D</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer's Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	

Algebra/Geometry II
Grade: 10 & 11
Full Year

Learning Objectives/ Content	Teaching/Learning Activities	Evaluation Criteria	State Standard
<p>Students will be able to determine which type of graph or plot is most representative of a set of data.</p>	<p>Using data from the internet, students will graph it and explain why they used the graph (plot) they used.</p> <p>Given various types of graphs or plots, students will defend which type is best for the data given.</p>	<ul style="list-style-type: none"> • Homework • Classroom discussions • Activities • Quizzes • Tests 	<p>2.6.11.B</p>
Resources/Materials			
<ul style="list-style-type: none"> • <u>Algebra I: Integrations, Applications, Connections</u> • <u>Algebra II: Integrations, Applications, Connections</u> • <u>Measuring Up to the PA Academic Standards: Final Level</u> 		<p><u>Geometry</u> <u>Informal Geometry</u> <u>PSSA Mathematics Coach: Grade 11</u></p>	
Additional Resources/Inter-disciplinary Relationships			
<ul style="list-style-type: none"> • Geometer’s Sketchpad • Math Related Web Sites (i.e. NCTM, TI) 		<p>Graphing Calculators Numb3rs TV Show</p>	