

PLANNED COURSE CURRICULUM GUIDE ANALYSIS

I. COURSE DESCRIPTION AND INTENT:

II. INSTRUCTIONAL TIME:

Class Periods:

Length of Class Periods (minutes): 42

Length of Course: 180 days; 120 clock hours

Unit of Credit: 1

Course Weight: 1

A GREAT PLACE TO LEARN!



PINE GROVE AREA SCHOOL DISTRICT
PINE GROVE, PENNSYLVANIA

PINE GROVE AREA SCHOOL DISTRICT
Pine Grove, Pennsylvania 17963

PLANNED COURSE ADAPTATIONS/MODIFICATIONS
Introduction

The instructional adaptations that follow are provided as suggestions to be implemented with all students, particularly with those in need of special education services including the gifted. This listing is in no way intended to be exhaustive. Rather, it is reflective of some major considerations in the area of curriculum adaptations/modifications.

These instructional adaptations will work with any student, but are especially beneficial to those in need of learning support. Some may argue that these modifications are simply *good teaching*. Indeed, modifications of this type do represent good teaching. These principles of good teaching become instructional modifications whenever: (1) certain students in a particular class require such modifications *above and beyond* what is typically required by *most* students in that class and (2) without these modifications, these same students would not succeed.

PREFACE

Users and information seekers should familiarize themselves with the purpose and terminology of this **Planned Course Curriculum Guide (PCCG)**. We suggest that you first read the following:

- **PCCG PURPOSE AND INTENT**
- **PCCG DEFINITIONS**

The PCCG specifies the unit lesson outcome, essential content, standards, activities, resources, and evaluation of student performance. This sector provides the means to initiate the learning activities to attain the program goal as identified in the course description and intent.

The standards and outcomes are minimal expectations; further embellishment of the course is discretionary with the instructor depending upon the capability of the students.

This PCCG is designed as an ACTIVE document capable of technological modification as required.

The instructional delivery of this curriculum is quality controlled through the lesson plan development of the teacher.

Lawrence J. Mussoline, Jr., Ph.D.
Superintendent of Schools

PLANNED COURSE CURRICULUM GUIDE (PCCG) PURPOSE AND INTENT

The Planned Course Curriculum Guide (PCCG) is a multi-purpose document:

- All staff, particularly new teachers, can understand instructional expectations through the WRITTEN curriculum
- A continuing district-wide instructional process and scope and sequence of subject matter are enhanced. The WRITTEN curriculum is delivered through the TAUGHT curriculum (instructional content and learning activities) and is evaluated through the TESTED curriculum (expected levels of student achievement - learning outcomes)
- Priority student-centered outcomes are identified and attained through suggested learning activities and content designed to help insure a balanced and comprehensive basic curriculum
- Essential content and course standards provide an efficient basis for selecting appropriate instructional materials and resources
- Staff development areas for curriculum improvement are provided
- The PCCG conforms with current Pennsylvania Department of Education curriculum regulations and serves the dual feature of providing both an administrative document and an instructional guide
- Content and subject format remain flexible and adaptable to modification - an "active" document
- Special Pennsylvania Department of Education (PDE) legislation is identified
- Parents and students are provided with an overview of the instructional program and each course in particular

PLANNED COURSE CURRICULUM GUIDE (PCCG) DEFINITIONS

- **Course Description and Intent**: a brief overview of the course and program goals
- **Instructional Time**: frequency of class meetings and time/appropriate credit at the secondary level
- **Special Notes**: emphatic features or highlights and identification of Department of Education mandates found in the course
- **Unit Lesson Outcome**: describes the knowledge, skills, attitudes, student performance behaviors and areas of study that have been identified as appropriate to help the student attain the rigorous standards of a quality education
- **Teaching-Learning Activities**: suggested activities designed to help all students achieve the learning outcomes and standards
- **Standards**: statements establishing the minimal knowledge, skills, performance behaviors, and essential learning (content) a student must attain. A standard defines what students should know and be able to do
- **Expected Levels of Achievement (Learning Outcomes)**: what students will be expected to do as a result of the application of teaching-learning activities and content
- **Evaluation Criteria (Actual Level of Attainment)**: student performance level achieved and measured through specified evaluation criteria

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #1: All students use numbers, number systems, and number relationships to represent theoretical and practical situations. Number types (e.g., whole, prime, irrational, and complex) and equivalent forms (e.g., fractions, decimals, and percents) are mastered.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 1</p> <p>78. Describe and apply inverse operations (reciprocal, absolute value, raising to a power, and/or finding roots) to solve equations and inequalities.</p> <p>79. Order and describe verbally, graphically, and using set notation subsets of real numbers.</p> <p>80. Define, represent, graph, and apply complex numbers to real-world situations.</p> <p>81. Describe domain and range of functions modeled from real-life data.</p>	<p>78. Solve radical equations.</p> <p>79. Describe in set notation, each subset of the set of real numbers. Use a Venn diagram to represent the relationships.</p> <p>80. Describe, add, subtract, multiply, and divide complex numbers. Apply complex numbers to electrical theory.</p> <p>81. Describe the domain, range, and maximums of real-life data (e.g., projectiles, areas, revenues, etc.)</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

82. Represent and analyze finite graphs as relations, and pictorial representations.

82. Graph quadratic functions.

Correctives – Individual instruction.

Extensions – Use the Internet to research related topics.

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #2: All students use computation and estimation skills to solve theoretical and practical problems using appropriate tools including modern technology such as calculators and computers.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 2</p> <p>69. Simplify irrational expressions involving roots.</p> <p>71. Estimate using scientific notation.</p> <p>72. Perform calculations by applying rules for exponents and roots.</p> <p>73. Develop and use computation concepts, operations, and procedures on real numbers in problem-solving situations.</p> <p>74. Use estimation to solve problems for which an exact answer is not needed.</p> <p>78. Demonstrate skills for using computer spreadsheets and</p>	<p>69. Simplify, add, subtract, multiply, and divide irrational expressions.</p> <p>71. Use estimation to simplify expressions in scientific notation.</p> <p>72. Use rules for exponents and roots to simplify, add, subtract, multiply, and divide irrational expressions.</p> <p>73. Solve problems using operations on real numbers, including irrational numbers.</p> <p>74. Estimate to solve problems for which and exact answer is not needed.</p> <p>78. Use Excel to calculate the quadratic formula. Use scientific calculators to</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

<p>scientific and/or graphing calculators.</p> <p>79. Develop and use computation, operations, and procedures on real and complex numbers in problem-solving situations.</p> <p>80. Determine and explain the meaning of the zeros of functions model from real-life situations.</p> <p>81. Construct and apply graphs of polynomial functions modeled from real data.</p>	<p>evaluate the value of trigonometric functions.</p> <p>79. Solve problems using computation, operations, and procedures on real and complex numbers.</p> <p>80. Find the times at which a projectile will be at a given height by finding the zeros of the quadratic equation.</p> <p>81. Use the 5 steps to graph a quadratic function and apply this method to area problems.</p> <p><u>Correctives</u> – Individual instruction.</p> <p><u>Extensions</u> – Use the Internet to research related topics.</p>		
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LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #3: All students use measurement and estimation skills to solve theoretical and practical problems.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 3</p> <p>58. Define radians and convert between radians and degrees.</p> <p>60. Measure and compare angles in degrees and radians.</p> <p>62. Apply degree and radian measure to solve real-world problems.</p>	<p>58. Derive the conversion factors for radians to degrees by applying the definition of radian to circles of various sizes. Convert from radians to degrees and degrees to radians in fractional and decimal form.</p> <p>60. Graph angles in standard position in radians and degrees and calculate coterminal angles.</p> <p>62. Use radian and degree measure to solve various application problems.</p> <p><u>Correctives</u> – Individual instruction.</p> <p><u>Extensions</u> – Use the Internet to research related topics and applications.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #4: All students use mathematical reasoning and make mathematical connections.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 4</p> <p>33. Construct algorithms for multi-step and real world problems.</p> <p>34. Describe connections between equivalent representations and corresponding procedures of the same problem situation or mathematical concept.</p> <p>37. Demonstrate mathematical solutions to problems in the physical sciences.</p>	<p>33. Use the four-step method to solve problems using real and complex numbers, the trigonometric functions for right triangles, the Law of Sines, and the Law of Cosines.</p> <p>34. Solve trigonometric problems using a variety of methods.</p> <p>37. Use the Law of Cosines to solve vector problems.</p> <p><u>Correctives</u>- Individual instruction.</p> <p><u>Extensions</u>- Use the Internet to research related topics.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #5: All students formulate and solve problems, communicate the mathematical process used, and the reasons for using them.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 5</p> <p>33. Construct algorithms for solving multi-step and non-routine real world problems.</p> <p>34. Explain the components of mathematical modeling: problem formation, mathematical model, solution with the model, and validation in real-world situations.</p> <p>35. Create and solve complex problems using appropriate mathematical concepts and techniques.</p> <p>36. Communicate, both in writing and orally, mathematical concepts, problems, procedures, and solutions using appropriate mathematical language.</p>	<p>33. Solve routine and non-routine problems using a variety of methods.</p> <p>34. Use the five-step method to graph a quadratic function, find the zeros of the function, and the maximum/minimum. Apply this method to area problems.</p> <p>35. Create and solve complex problems using appropriate mathematical concepts and techniques.</p> <p>36. Communicate the problem solving process, both orally and in writing, using the correct mathematical language and reasoning. Justify procedures and solutions.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

	<p><u>Correctives</u> – Individual instruction.</p>		
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	<p><u>Extensions</u> – Use the Internet to explore related topics.</p>		
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LEARNING LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #7: All students make predictions based upon the collection, organization, analyzing, and interpretation of statistical data and the application of probability.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 7</p> <p>39. Define, calculate, and compare the probability and odds of an event.</p> <p>40. Define and distinguish between independent and dependent events.</p> <p>42. Define and calculate conditional probability.</p> <p>43. Design and conduct simulation experiments, apply appropriate theoretical probability, and draw and justify a conclusion.</p> <p>45. Design, conduct, analyze, and present experiments that demonstrate an understanding of</p>	<p>39. Use the fundamental counting principle, permutations and combinations to calculate the probability and odds that an event will occur.</p> <p>40. Calculate the probability of independent and dependent events in real-world situations.</p> <p>42. Define and calculate conditional probability.</p> <p>43. Simulate events, apply probability theory, and draw and justify a conclusion.</p> <p>45. Compare and contrast events that are independent, mutually exclusive, simple, compound, and</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

independent, mutually exclusive,
simple and compound events, and
complimentary events.

complimentary.

Correctives – Individual instruction.

Extension – Use the Internet to research
related topics and applications.

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #8: All students understand, demonstrate, and apply basic concepts of algebra to solve theoretical and practical problems.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 8</p> <p>61. Graph equations representing conic sections (circles, ellipses, parabolas, and hyperbolas).</p> <p>67. Use equations to represent curves such as lines, circles, ellipses, parabolas, and hyperbolas.</p> <p>69. Solve linear, quadratic, and exponential equations both symbolically and graphically.</p> <p>71. Represent functional relationships in tables, charts, and graphs.</p> <p>72. Create and interpret functional models.</p>	<p>61. Graph parabolas using the five-step method.</p> <p>67. Represent lines with linear equations. Represent parabolas with quadratic equations.</p> <p>69. Solve and graph linear and quadratic equations.</p> <p>71. Create tables and graphs to represent functions.</p> <p>72. Model real-life situations using linear and quadratic equations.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

<p>73. Analyze properties of various functions.</p> <p>76. Create, write, and solve real life problems that demonstrate an understanding of appropriate function models.</p>	<p>73. Define properties of linear, quadratic, rational, and trigonometric functions and describe their relationships.</p> <p>76. Create, write, and solve real life problems using trigonometric functions and related properties.</p> <p><u>Correctives</u> – Individual instruction <u>Extensions</u> – Internet research.</p>		
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LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #9: All students understand, demonstrate, and apply basic concepts of geometry to solve theoretical and practical problems.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 9</p> <p>78. Perform operations with vectors and determine the direction and magnitude of a vector.</p> <p>87. Describe the center, vertices, foci, and/or asymptotes of conic sections from their general equations.</p> <p>88. Demonstrate appropriate use of vectors and vector operations to solve real-world applications (bearings).</p>	<p>78. Represent forces involving vectors and their addition by the tip-to-tail method, and graph the resultant force. Use the Law of Sines and Law of Cosines to calculate the magnitude and direction of the resultant force.</p> <p>87. Describe the asymptotes of the various trigonometric functions.</p> <p>88. Solve airplane heading/direction problems using vectors and the Law of Cosines.</p> <p><u>Correctives</u> – Individual instruction.</p> <p><u>Extensions</u> – Use the Internet to research related topics and applications.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #10: All students understand, demonstrate, and apply basic concepts of trigonometry and solve theoretical and practical problems.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ©</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 10</p> <p>16. Apply the properties of special (45-45-90 and 30-60-90) right triangles to real-life situations.</p> <p>17. Express trigonometric ratios as fractions or decimals and describe their relationships to right triangles.</p> <p>18. Calculate values of trigonometric ratios using reference angles.</p>	<p>16. Discuss the properties of special right triangles and apply them to real-life situations.</p> <p>17. Define the six trigonometric functions in terms of rectangular coordinates and sides of a right triangle. Apply these definitions to various angles and right triangles. Represent the values of the six trigonometric functions as fractions and decimals.</p> <p>18. Find the appropriate reference angle and use a calculator to determine the value of each of the six trigonometric functions for given angles up to four decimal places. Use a calculator to determine the angles that correspond to a given</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

<p>19. Identify and prove equivalent trigonometric expressions.</p> <p>20. Use the Law of Sines and the Law of Cosines to determine sides and/or angles in a triangle.</p> <p>21. Graph periodic and circular functions, and describe the properties of these graphs.</p> <p>22. Represent and apply translations of sine and cosine functions.</p> <p>23. Collect appropriate data, analyze period, amplitude and phase shifts, and describe model for applications of sine and cosine functions (e.g., harmonic motion).</p> <p>24. Create, write, and solve real-world application problems that</p>	<p>decimal value of any of the six trigonometric functions.</p> <p>19. Prove trigonometric identities using the definitions of the functions and the Pythagorean Theorem. Use the identities (reciprocal, quotient, and pythagorean) to prove equivalent trigonometric expressions, and derive the sum and difference identities, double-angle, and half-angle identities.</p> <p>20. Derive the Law of Sines and Law of Cosines from the definitions of the functions applied to right triangles. Use the Law of Sines, Law of Cosines and definitions of the six trigonometric functions for right triangles to solve problems for missing parts and real-life applications.</p> <p>21. Graph and describe the properties of the six trigonometric functions including amplitude, period, and asymptotes.</p> <p>22. Identify and graph changes in amplitude and period for sine and cosine. Identify and graph changes in period, including asymptotes, for tangent, cotangent, secant, and cosecant.</p> <p>23. Apply sine and cosine functions and graphs to physical sciences (e.g., sound waves).</p> <p>24. Solve real-world application problems using right triangles, Law</p>		
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<p>demonstrate an understanding of solving right triangles and/or using the Law of Sines and/or Law of Cosines.</p> <p>25. Create, write, and solve real-world problems that demonstrate an understanding of inverse trigonometric functions.</p>	<p>of Sines, and Law of Cosines.</p> <p>25. Solve real-world application problems using inverse trigonometric functions.</p> <p><u>Correctives</u> – Individual instruction.</p> <p><u>Extensions</u> – Use the Internet to research related topics.</p>		
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LEARNING STANDARDS AND CONTENT ACTIVITIES

Statement of student learning expectations achieved through suggested teaching-learning activities and selected content to help reach standards and graduation requirements.

Academic Content Standard #11: All students understand, demonstrate, and apply basic concepts of calculus to solve theoretical and practical problems.

ESSENTIAL CONTENT PERFORMANCE STANDARD	CONTENT & INSTRUCTIONAL ACTIVITIES/STRATEGIES WITH CORRECTIVES AND EXTENSIONS <i>(individually created teaching activities may be used to achieve the standards; however, listed below are activities which may be helpful) ☺</i>	ACTUAL LEVEL OF ATTAINMENT (EVALUATION CRITERIA) ASSESSMENT	RESOURCES AND MATERIALS
<p>STANDARD 11</p> <p>37. Identify graphically, intervals over which a function increases, decreases, or remains constant.</p> <p>38. Compute the domain and range of a function from its equation.</p> <p>39. Define the concept of continuity.</p> <p>40. Locate discontinuities of functions graphically.</p> <p>41. Determine maximum and minimum values of a function over a specified interval.</p>	<p>37. Solve a quadratic inequality using the five-step method of graphing.</p> <p>38. Identify the domain and range of the six trigonometry functions.</p> <p>39. Define continuity using sine and cosine.</p> <p>40. Use asymptotes to locate discontinuities of tangent, cotangent, secant, and cosecant.</p> <p>41. Identify maximum and minimum values of sine and cosine. Find the vertex of a quadratic equation and identify it as maximum or minimum.</p>	<ul style="list-style-type: none"> • Teacher-made/commercial tests, quizzes, and activities • Homework assignments • Oral presentations • Cooperative activities and presentations • Classroom work 	<ul style="list-style-type: none"> • Textbook • Calculators • Graph paper • Measuring devices • Computers with the Internet • Teacher resource books

44. Describe the meaning of maximum or minimum values of a function and how it applies to a real-life situation.

44. Apply maximum and minimum of a quadratic equation to real-world situations.

Correctives- Individual instruction.

Extensions- Use the Internet to research related topics.