

A Correlation of

**MyMathLab® for School
Precalculus
Graphical, Numerical, Algebraic
Common Core Edition
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MyMathLab® for School

to the

**Tennessee
Mathematics Standards
Approved July 30, 2010
Pre-Calculus #3126
Bid Category 13-090-10**

**A Correlation of MyMathLab® for School, Precalculus
Graphical, Numerical, Algebraic, Common Core Edition, ©2016
to the Tennessee Mathematics Standards
Pre-Calculus #3126**

Tennessee Mathematics Standards Pre-Calculus #3126	MyMathLab® for School, Precalculus Graphical, Numerical, Algebraic Common Core Edition, ©2016
Standard 1 – Mathematical Processes	
Course Level Expectations	
CLE 3126.1.1 Use mathematical language, symbols, definitions, proofs and counterexamples correctly and precisely in mathematical reasoning.	SE/TE: P.2: 12-17, 2.1: 158-167, 2.7: 228-230, 4.2: 329, 5.2: 414-417, 5.3: 421-424, 5.4: 429-431, 7.2: 529-538, 9.5: 667-670, 11.1: 754-761, B.1: 814-818, B.2: 820-825
CLE 3126.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including testing cases, estimation, and then checking induced errors and the reasonableness of the solution.	SE/TE: 1.1: 70-74, 1.2: 88-94, 1.4: 112-113, 1.7: 144, 3.1: 260-261, 3.5: 297-300, 4.2: 332-333, 6.2: 467-471, 8.2: 585, 8.6: 625-627, 9.4: 662-663, 10.2: 697-698, 11.2: 767-768
CLE 3126.1.3 Develop inductive and deductive reasoning to independently make and evaluate mathematical arguments and construct appropriate proofs; include various types of reasoning, logic, and intuition.	SE/TE: 1.1: 68, 70-74, 2.1: 164, 2.8: 240-242, 3.5: 292-294, 297-298, 5.2: 414-417, 5.3: 421-424, 5.4: 429-431, 9.5: 667-670, B.1: 814-818, B.2: 820-825
CLE 3126.1.4 Move flexibly between multiple representations (contextual, physical, written, verbal, iconic/pictorial, graphical, tabular, and symbolic), to solve problems, to model mathematical ideas, and to communicate solution strategies.	SE/TE: 1.3: 99-105, 1.6: 129-136, 1.7: 140-147, 2.1: 159-168, 2.2: 175-178, 2.3: 185-192, 2.6: 218-224, 3.1: 252-261, 3.2: 265-270, 3.4: 287-288, 4.4: 350-356, 4.6: 369-375, 4.7: 378-382
CLE 3126.1.5 Recognize and use mathematical ideas and processes that arise in different settings, with an emphasis on formulating a problem in mathematical terms, interpreting the solutions, mathematical ideas, and communication of solution strategies.	SE/TE: 1.1: 70-71, 1.7: 140-147, 2.2: 175-178, 3.1: 259-261, 3.5: 292-300, 3.6: 304-310, 6.1: 461-463, 6.2: 471, 8.1: 571-578, 8.2: 582-590, 8.3: 593-599, 8.4: 603-609
CLE 3126.1.6 Employ reading and writing to recognize the major themes of mathematical processes, the historical development of mathematics, and the connections between mathematics and the real world.	SE/TE: P.2: 12, P.4: 35, P.6: 49, 1.3: 100, 3.1: 257, 3.4: 284, 4.1: 320, 8.1: 571, 10.1: 678, 11.1: 754, 11.2: 766, 768, 11.3: 773
CLE 3126.1.7 Use technologies appropriately to develop understanding of abstract mathematical ideas, to facilitate problem solving, and to produce accurate and reliable models.	SE/TE: P.1: 3, 9, P.5: 43-44, 1.1: 72-73, 1.7: 147, 2.1: 168, 2.2: 180-181, 2.6: 218-219, 3.2: 268-269, 3.3: 276-277, 6.6: 507, 7.1: 524, 7.3: 547-551, 10.5: 739-740, 11.4: 787-788
Check for Understanding (Formative/Summative Assessment)	
3126.1.1 Give a sequence of algebraic or mathematical reasons to justify the validity of the steps in a mathematical proof.	SE/TE: 1.1: 68, 70-74, 2.1: 164, 2.8: 240-242, 3.5: 292-294, 297-298, 5.2: 414-417, 5.3: 421-424, 5.4: 429-431, 9.5: 667-670, B.1: 814-818, B.2: 820-825

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3126.1.2 Use algebraic properties to develop a valid sequence of mathematical statements.	SE/TE: 1.1: 73-74, 2.1: 164, 2.8: 240-242, 3.5: 292-294, 297-298, 5.2: 414-417, 5.3: 421-424, 5.4: 429-431, 9.5: 667-670
3126.1.3 Correctly use summation notation; expand and collect expressions in both finite and infinite settings.	SE/TE: 9.4: 658-663, 10.3: 708-710, 11.2: 768, 11.4: 788
3126.1.4 Derive and apply the formulas for the area of sector of a circle.	For related content, please see: SE/TE: 8.2: 582-592
3126.1.5 Conduct simple experiments or investigations to collect non-linear data to answer questions of interest.	SE/TE: 10.5: 734-742
3126.1.6 Understand the different representations of a function; discuss the criteria (such as the type of function and the problem under consideration) for determining which representation is most helpful.	SE/TE: 1.2: 81-94, 1.3: 99-105, 1.4: 111-116, 1.5: 121-125, 1.6: 129-136, 1.7: 140-147, 2.2: 175-178, 2.3: 185-192, 2.6: 218-224, 3.1: 252-261, 3.3: 274-280, 3.4: 287-288, 4.4: 350-356, 4.5: 361-364, 4.6: 369-375, 4.7: 378-382
3126.1.7 Analyze situations, develop mathematical models, or solve problems using linear, polynomial, trigonometric, exponential, or logarithmic equations or inequalities symbolically or graphically.	SE/TE: P.4: 34-35, 1.1: 64-74, 1.7: 140-147, 2.1: 158-168, 2.2: 175-178, 2.7: 228-232, 3.1: 259-261, 3.2: 265-270, 3.3: 280, 3.4: 287-288, 3.5: 292-300, 3.6: 304-310
3126.1.8 Draw qualitative graphs (sketches) of functions (linear, quadratic, cubic, square root, absolute value, reciprocal, trigonometric, exponential, logarithmic, and greatest integer) and describe their general shape/trend.	SE/TE: 1.1: 67-73, 1.3: 99-105, 1.6: 129-136, 1.7: 140-147, 2.1: 159-168, 2.2: 175-178, 2.3: 185-192, 2.6: 218-224, 3.1: 252-261, 3.2: 265-270, 3.3: 274-280, 3.4: 287-288, 4.4: 350-356, 4.5: 361-364, 4.6: 369-375, 4.7: 378-382
3126.1.9 Demonstrate diagrammatically composition of functions and inverse of functions; discuss similarity to and differences from arithmetic operations of functions.	SE/TE: 1.4: 111-116, 1.5: 121-125, 3.3: 274-275, 3.4: 287-288
3126.1.10 Make inferences or predictions using an algebraic model of a situation.	SE/TE: P.4: 33-35, 1.1: 68, 1.7: 144, 147, 2.1: 163, 167-168, 2.2: 180-181, 3.1: 260-261, 3.2: 268-269, 3.4: 287-288, 3.5: 297-300
3126.1.11 Discuss interpolation vs. extrapolation and the validity of the resulting estimates.	SE/TE: 1.1: 68, 1.7: 144, 147, 2.1: 163, 168, 2.2: 181, 3.2: 268, 10.5: 732-734

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3126.1.12 Discuss the changes in mathematics that arose through the development of function notation, Cartesian coordinates, base e , and other mathematical ideas discussed in pre-calculus.	SE/TE: P.2: 12, P.6: 49, 1.3: 100, 3.1: 257, 8.1: 571, 10.1: 678, 11.1: 754, 11.2: 766, 768, 11.3: 773
3126.1.13 Establish accurate and consistent use of units in the presentation of answers to applied questions.	SE/TE: P.1: 8-9, P.4: 35, 1.7: 140-147, 2.6: 224, 3.5: 294-298, 4.1: 320-324, 4.8: 388-393, 6.1: 461-463, 8.2: 589-590, 8.3: 599, 8.5: 616-617
3126.1.14 Use graphing calculators and computer spreadsheets to analyze qualities of a function	SE/TE: 1.2: 81, 85-86, 88-94, 1.3: 102-105, 1.4: 112-113, 3.1: 255, 257-258
Standard 2 – Number & Operations	
Course Level Expectations	
CLE 3126.2.1 Understand the capabilities and the limitations of calculators and computers in solving problems.	SE/TE: P.5: 43-44, 1.1: 72-73, 1.7: 147, 2.1: 168, 2.2: 180-181, 2.6: 218-219, 3.2: 268-269, 3.3: 276-277, 6.6: 507, 7.1: 524, 7.3: 547-551, 10.5: 739-740, 11.4: 787-788
CLE 3126.2.2 Represent, interpret or compare expressions for real numbers, including expressions utilizing exponents and logarithms.	SE/TE: P.1: 2-3, 7-9, 1.1: 69-70, 2.7: 228-232, 3.1: 253-254, 256-258, 260-261, 3.4: 283-286
CLE 3126.2.3 Develop the ability to recognize the difference between algebraic and transcendental expressions; be able to classify a number (Natural, integer, rational, etc.) written in a complex format.	SE/TE: P.1: 2-3, 2.7: 228-232, 3.1: 253, 256-258, 260-261
CLE 3126.2.4 Develop facility with simplification of complex algebraic expressions involving exponential notation, logarithmic notation, rational notation, and radicals	SE/TE: P.6: 49-52, 1.1: 69-70, 2.7: 228-232, 3.1: 253-254, 256-258, 260-261, 3.4: 283-286
CLE 3126.2.5 Be able to calculate vector arithmetic and vector length.	SE/TE: 6.1: 457-460, 462-463, 6.2: 467-471, 8.6: 625-627
CLE 3126.2.6 Recognize vectors as elements (i.e. numbers) that have their own form of arithmetic operations in their own system of elements.	SE/TE: 6.1: 456-463, 6.2: 467-471, 8.6: 625-627

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CLE 3126.2.7 Recognize series as an identification of a number which can be identified as a specific numeral or only approximated.	SE/TE: 9.4: 658-663, 11.2: 768, 11.4: 788
Check for Understanding (Formative/Summative Assessment)	
3126.2.1 Use calculators appropriately and make estimations without a calculator regularly to detect potential errors.	SE/TE: P.1: 3, 9, P.5: 43-44, 1.1: 72-73, 1.7: 147, 2.1: 168, 2.2: 180-181, 2.6: 218-219, 3.2: 268-269, 3.3: 276-277, 6.6: 507, 7.1: 524, 7.3: 547-551, 10.5: 739-740, 11.4: 787-788
3126.2.2 Demonstrate round-off error, overflow error, and errors in mode settings (ex. Degree vs. radians) with particular examples.	SE/TE: P.1: 3, P.5: 43, 1.1: 72-73, 4.2: 332-333, 8.2: 585, 11.3: 777
3126.2.3 Compare exponential and logarithmic expressions.	SE/TE: 3.4: 283-288, 3.5: 292-300, 3.6: 304-310
3126.2.4 Recognize the difference between continuous and discrete situations.	SE/TE: 9.1: 634-640, 9.2: 644-647, 9.3: 650-655, 9.4: 658-663, 10.2: 697-698, 10.4: 723-727, 11.2: 767-769, 11.3: 776-780, 11.4: 786-789
3126.2.5 Classify real numbers and order real numbers that include transcendental expressions, including roots and fractions of pi and e.	SE/TE: P.1: 2-3, 3.1: 252-253, 256-258, 260-261
3126.2.6 Simplify complex radical and rational expressions; discuss and display understanding that rational numbers are dense in the real numbers and the integers are not.	SE/TE: P.1: 2-3, P.6: 49-52, 1.1: 69-70, 2.7: 228-232, A.1: 797-800, A.3: 809-812
3126.2.7 Multiply a vector by a scalar both algebraically and graphically.	SE/TE: 6.1: 458-459, 8.6: 625-627
3126.2.8 Add vectors both algebraically and graphically.	SE/TE: 6.1: 458-460, 462, 8.6: 625-627
3126.2.9 Calculate magnitude and direction of a vector.	SE/TE: 6.1: 458, 460-463, 6.2: 468, 8.6: 625
3126.2.10 Calculate and interpret the dot product of two vectors.	SE/TE: 6.2: 467-471, 8.6: 625

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3126.2.11 Understand that vectors are determined by the coordinates of their initial and terminal points, or by their components.	SE/TE: 6.1: 457-463, 6.2: 468, 470-471, 8.6: 625-627
3126.2.12 Use vectors to model velocity and direction to solve problems.	SE/TE: 6.1: 461-463, 6.2: 471, 8.6: 626
3126.2.13 Determine whether a given arithmetic or geometric series converges or diverges.	SE/TE: 9.4: 661-663
3126.2.14 Demonstrate an understanding of sequences by representing them recursively and explicitly.	SE/TE: 9.3: 650-655, 9.4: 658-663
3126.2.15 Use Sigma notation to represent a series.	SE/TE: 9.4: 658-663, 11.2: 768, 11.4: 788
3126.2.16 Find the sum of a given geometric series (both infinite and finite).	SE/TE: 9.4: 661-663
3126.2.17 Find the sum of a finite arithmetic series.	SE/TE: 9.4: 658-660
3126.2.18 Use the laws of exponents and logarithms to expand or collect terms in expressions; simplify expressions or modify them in order to analyze them or compare them.	SE/TE: P.1: 7-9, 3.4: 283-288, 3.5: 292-300, 3.6: 304-310
Standard 3 – Algebra	
Course Level Expectations	
CLE 3126.3.1 Develop an understanding of functions as elements that can be operated upon to get new functions: addition, subtraction, multiplication, division, and composition of functions.	SE/TE: 1.4: 110-116, 1.5: 121-125, 1.6: 129-136, 2.3: 186-187
CLE 3126.3.2 Understand how the algebraic properties of an equation transform the geometric properties of its graph.	SE/TE: 1.2: 84-94, 1.3: 99-105, 1.6: 129-136, 2.2: 175-178, 2.3: 185-192, 2.6: 218-224, 3.3: 274-280

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CLE 3126.3.3 Analyze the graph of a function, given either a sketch or a symbolic description.	SE/TE: 1.1: 72-73, 1.2: 84-94, 1.3: 99-105, 1.6: 129-136, 2.2: 175-178, 2.3: 185-192, 2.6: 218-224, 3.1: 252-258, 3.3: 274-280
CLE 3126.3.4 Identify or analyze the distinguishing properties of exponential, polynomial, logarithmic, trigonometric, and rational functions from tables, graphs, and equations.	SE/TE: 1.3: 99-105, 1.7: 140-147, 2.1: 158-168, 2.2: 175-178, 2.3: 185-192, 2.4: 197-204, 2.6: 218-224, 3.1: 252-258, 3.3: 274-280, 3.5: 292-300, 3.6: 304-310, 4.4: 350-356, 4.5: 361-364, 4.6: 369-375, 4.7: 378-382
CLE 3126.3.5 Apply appropriate techniques to analyze mathematical models and functions constructed from verbal information; interpret the solution obtained in written form using appropriate units of measurement.	SE/TE: 1.1: 64-74, 1.7: 140-147, 2.1: 158-168, 2.2: 175-178, 3.1: 259-261, 3.2: 265-270, 3.5: 292-300, 3.6: 304-310
CLE 3126.3.6 Solve maximum/minimum value problems by converting the given verbal information into an appropriate mathematical model and analyzing the graph of that model graphically to answer the questions. Recognize the approximation necessary when solving graphically.	SE/TE: 1.2: 89-90, 2.1: 165-168
CLE 3126.3.7 Solve nonlinear inequalities (quadratic, trigonometric, conic, exponential, and logarithmic).	SE/TE: P.7: 54-57, 2.8: 236-242
CLE 3126.3.8 Understand the properties of conic sections (whether displayed in equation or graphical form) and apply conic sections to model real-world phenomena.	SE/TE: 8.1: 571-578, 8.2: 582-590, 8.3: 593-599, 8.4: 603-609, 8.5: 612-617
CLE 3126.3.9 Simulate motion using parametric equations.	SE/TE: 6.3: 475-481
CLE 3126.3.10 Derive and use the formulas for the general term and summation of finite or infinite arithmetic and geometric series, if they exist.	SE/TE: 9.4: 658-663, 11.2: 768, 11.4: 788
CLE 3126.3.11 Develop the concept of a limit by examining sequences and series.	SE/TE: 11.2: 766-770

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Check for Understanding (Formative/Summative Assessment)	
3126.3.1 Calculate the inverse of a function with respect to each of the functional operations; in other words, the additive inverse, the multiplicative inverse, and the inverse with respect to composition.	SE/TE: 1.5: 121-125, 3.3: 274-276, 3.4: 287-288
3126.3.2 Recognize the role that domain of function plays in the combination of functions by composition of functions.	SE/TE: 1.2: 81-84, 1.4: 110-116, 1.5: 121-125
3126.3.3 Identify whether a function has an inverse with respect to composition and when functions are inverses of each other with respect to composition.	SE/TE: 1.5: 121-125, 3.3: 274-276, 3.4: 287-288
3126.3.4 Explain why the graph of a function and its inverse are reflections of one another over the line $y = x$.	SE/TE: 1.5: 123-125, 3.3: 274-276
3126.3.5 Explain the relationship between the real zeros and the x-intercept of the graph of a function (polynomial, rational, exponential, logarithmic, and trigonometric).	SE/TE: 2.1: 163-168, 2.3: 185-192, 2.4: 197-204, 2.5: 211-214, 2.6: 218-224
3126.3.6 Identify the real zeros of the graph of a function (polynomial, rational, exponential, logarithmic, and trigonometric) in equation or graphical form.	SE/TE: 1.1: 68-69, 2.3: 185-192, 2.4: 197-204, 2.5: 211-214, 2.6: 218-224
3126.3.7 Identify characteristics of graphs based on a set of conditions or on a general equation such as $y = ax^2 + c$.	SE/TE: 1.3: 99-105, 1.6: 129-136, 2.1: 158-168, 2.2: 175-178, 2.3: 185-192, 3.1: 252-258, 3.3: 274-280, 3.4: 287-288
3126.3.8 Given a function, describe the transformation of the graph resulting from the manipulation of the algebraic properties of the equation (i.e., translations, stretches, and changes in periodicity and amplitude)	SE/TE: 1.6: 129-136, 2.2: 176-177, 2.3: 185-189, 3.1: 256-258
3126.3.9 Determine the asymptotes and end behaviors of functions.	SE/TE: 1.2: 86-89, 92-94, 1.3: 102, 104-105, 2.3: 187-189, 2.6: 218-224
3126.3.10 Determine whether a function is even, odd, or neither.	SE/TE: 1.2: 90-92, 1.3: 103, 2.6: 219

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3126.3.11 Prove basic properties of a logarithm using properties of its inverse and apply those properties to solve problems.	SE/TE: 1.3: 100, 3.3: 274-280, 3.4: 283-288, 3.5: 292-300, 3.6: 304-310
3126.3.12 Find the inverse of an exponential or a logarithmic function.	SE/TE: 3.1: 252-258, 3.3: 274-280, 3.4: 287-288, 3.5: 292-300, 3.6: 304-310
3126.3.13 Visually locate critical points on the graphs of polynomial functions and determine if each critical point is a minimum, a maximum, or point of inflection.	SE/TE: 1.2: 84-94, 2.1: 164-168, 2.3: 185-192, 2.4: 197-204
3126.3.14 For a given sketch of a graph of a function, describe the concavity and locate maximums, minimums, increasing and decreasing intervals, and zeroes.	SE/TE: 1.1: 69-70, 1.2: 84-94, 1.3: 101-105, 2.1: 164-168, 2.2: 175-178, 2.4: 197-204, 2.6: 218-224
3126.3.15 Sketch the graph of a given a rational function and locate vertical, horizontal, and slant asymptotes, and holes in the graph if they exist.	SE/TE: 1.2: 92-94, 1.3: 100, 2.6: 218-224
3126.3.16 Solve real world problems that can be modeled using quadratic, exponential, or logarithmic functions (by hand and with appropriate technology).	SE/TE: 2.1: 164-168, 3.1: 259-261, 3.3: 280, 3.5: 292-300, 3.6: 304-310
3126.3.17 Solve nonlinear inequalities by graphing (solutions in interval notation if one-variable) by hand and with appropriate technology.	SE/TE: P.7: 54-57, 2.8: 236-242
3126.3.18 Solve systems of nonlinear inequalities by graphing.	SE/TE: 7.4: 558-559, 562-564
3126.3.19 Graph ellipses and hyperbolas and demonstrate understanding of the relationship between their standard algebraic form and the graphical characteristics.	SE/TE: 8.2: 582-590, 8.3: 593-599, 8.4: 603-606, 608, 8.5: 613-616
3126.3.20 Graph circles and demonstrate an understanding of the relationship between their standard algebraic form and the graphical characteristics.	SE/TE: P.2: 15-16, 4.3: 344-346, 6.5: 501, 8.2: 582
3126.3.21 From an equation in standard form, graph the appropriate conic section.	SE/TE: 8.1: 571, 574-575, 577, 8.2: 585-586, 8.3: 593-596, 8.4: 606-609

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3126.3.22 Graph curves parametrically (by hand and with appropriate technology).	SE/TE: 1.5: 119-121, 125, 6.3: 475-481
3126.3.23 Eliminate parameters by rewriting parametric equations as a single equation.	SE/TE: 1.5: 119, 6.3: 476-477, 482-483
3126.3.24 Understand the series represent the approximation of a number when truncated; estimate truncation error in specific examples.	SE/TE: 9.4: 662-663, 11.2: 767-768, 11.4: 788-789
3126.3.25 Understand that lengths of curves and areas of curved regions can be defined using the informal notion of limit.	SE/TE: 11.2: 767-767, 11.4: 785-786, 788-789
3126.3.26 Construct the difference quotient for a given function and simplify the resulting expression.	SE/TE: 11.1: 754-761, 11.4: 784-788
Standard 4 – Geometry & Measurement	
Course Level Expectations:	
CLE 3126.4.1 Understand basic right triangle trigonometry and use it to solve problems.	SE/TE: 4.2: 329-334, 4.3: 338-346, 4.7: 383-384, 4.8: 388-393, 5.5: 434-438, 5.6: 442-447
CLE 3126.4.2 Know how the trigonometric functions can be extended to the periodic functions on the real number line, derive basic formulas of these functions, and use these functions and formulas to solve problems.	SE/TE: 4.3: 338-346, 4.4: 350-356, 4.5: 361-364, 4.8: 391-392, 5.1: 405, 407-410, 5.2: 415, 5.3: 422, 5.4: 430-431
CLE 3126.4.3 Solve trigonometric equations and inequalities algebraically and graphically, by hand and with appropriate technology.	SE/TE: 4.5: 363-364 383-384, 4.8: 388-393, 5.5: 434-438, 5.6: 442-447, 5.4: 430-431
CLE 3126.4.4 Apply trigonometric identities to rewrite expressions and solve equations.	SE/TE: 5.1: 404-410, 5.2: 413-417, 5.3: 421-425, 5.4: 428-431, 5.5: 434-438, 5.6: 442-447
CLE 3126.4.5 Apply vectors to solve real world problems.	SE/TE: 6.1: 456-463, 6.2: 471, 8.6: 626
CLE 3126.4.6 Represent situations and solve problems involving polar coordinates.	SE/TE: 6.4: 487-491, 6.5: 494-500, 8.5: 612-617
CLE 3126.4.7 Interpret transformations of trigonometric functions.	SE/TE: 4.4: 352-356, 5.1: 405, 407-410, 5.2: 415, 5.3: 422, 5.4: 430-431

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CLE 3126.4.8 Understand the geometric interpretation of vectors and their use in real life analysis of problems.	SE/TE: 6.1: 456-463, 6.2: 471, 8.6: 626
CLE 3126.4.9 Develop an understanding of the graphic representation of vectors and vector arithmetic.	SE/TE: 6.1: 456-463, 6.2: 468, 470-471, 8.6: 625-626
Check for Understanding (Formative/Summative Assessment)	
3126.4.1 Solve problems using the fact that trigonometric ratios (sine, cosine, and tangent) stay constant in similar triangles.	SE/TE: 4.2: 333-334, 4.8: 388-393, 5.5: 434-438, 5.6: 442-447
3126.4.2 Use the definitions of the six trigonometric ratios as ratios of sides in a right triangle to solve problems about lengths of sides and measures of angles.	SE/TE: 4.2: 333-334, 4.7: 383-384, 4.8: 388-393, 5.5: 434-438, 5.6: 442-447
3126.4.3 Match a trigonometric equation with its graph.	SE/TE: 4.4: 350-353, 355-356, 4.5: 361-364, 4.6: 370-375, 4.8: 391-392, 5.1: 405, 407-410, 5.2: 415, 5.3: 422, 5.4: 430-431
3126.4.4 7 Know that the six trigonometric functions can be extended to periodic functions on the real number line.	SE/TE: 4.3: 338-346, 4.4: 350-356, 4.5: 361-364, 4.6: 369-375
3126.4.5 Convert from radians to degrees and from degrees to radians.	SE/TE: 4.1: 320-324, 4.2: 331-333
3126.4.6 Determine the difference made by choice of units for angle measurement when graphing a trigonometric function.	SE/TE: 4.2: 329-333
3126.4. 7 Find values of inverse trigonometric functions, applying appropriate domain and range restrictions.	SE/TE: 4.7: 378-384, 6.1: 461-462
3126.4.8 Know and use the following trigonometric identities in verifying other identities: Pythagorean, Reciprocal, Quotient, Sum/Difference, Double Angle	SE/TE: 5.4: 430-431, 5.6: 442-445
3126.4.9 Know and use the following trigonometric identities in solving trigonometric equations: Pythagorean, Reciprocal, Quotient, Sum/Difference, Double Angle	SE/TE: 5.1: 404-410, 5.2: 413-417, 5.3: 421-425, 5.4: 428-431, 5.6: 442-445
3126.4.10 Apply the Pythagorean and Reciprocal Identities to verify identities and solve equations.	SE/TE: 5.1: 404-410, 5.2: 415-417, 5.4: 430-431, 5.6: 442-445

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3126.4.11 Graph functions in polar coordinates.	SE/TE: 6.5: 494-500, 8.5: 612-616
3126.4.12 Convert between rectangular and polar coordinates.	SE/TE: 6.4: 488-490, 8.5: 615-616
3126.4.13 Graph the inverse trigonometric functions, identify their key characteristics.	SE/TE: 4.7: 378, 380, 382
3126.4.14 Graph the six trigonometric function and identify characteristics such as period, amplitude, phase shift, and asymptotes.	SE/TE: 4.4: 350-356, 4.5: 361-364, 4.6: 370-375, 4.8: 391-392
3126.4.15 Determine the appropriate domains for each of the inverse trigonometric functions.	SE/TE: 4.7: 378-384
3126.4.16 Understand that vectors are determined by the coordinates of their initial and terminal points, or by their components.	SE/TE: 6.1: 457-463, 6.2: 468, 470-471, 8.6: 625-627
3126.4.17 Use vectors to model velocity and direction to solve problems.	SE/TE: 6.1: 461-463, 6.2: 471, 8.6: 626
3126.4.18 Approximate the area under a curve geometrically by constructing a finite number of rectangles and calculating the total area in those rectangles.	SE/TE: 11.2: 767-767, 11.4: 785-786, 788-789
3126.4.19 Compare two different approximations of area under a curve by using a different number of rectangles.	SE/TE: 11.4: 785-786, 788-789
Standard 5 – Data Analysis, Statistics, & Probability	
Course Level Expectations	
CLE 3126.5.1 Create scatter plots, analyze patterns and describe relationships that exist in a set of linear and non-linear paired data to model real-world phenomena and make predictions.	SE/TE: P.4: 33-34, 1.1: 65-68, 1.2: 82, 1.7: 143-144, 146-147, 2.1: 161-163, 167-168, 2.2: 180-181, 3.1: 260-261, 3.2: 268-269, 3.4: 287-288, 3.5: 297-300, 10.5: 732-734, 11.4: 788
CLE 3126.5.2 Model a data using a variety of transcendental and polynomial models; when possible, determine the best model.	SE/TE: 1.7: 146-147, 2.1: 167-168, 2.2: 180-181, 3.1: 260-261, 3.2: 268-269, 3.4: 287-288, 3.5: 297-300
CLE 3125.5.3 Recognize and explain the potential errors caused by extrapolating from data.	SE/TE: 1.1: 68, 1.7: 144, 146-147, 2.1: 163, 168, 3.2: 268, 10.5: 732-734

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Check for Understanding (Formative/Summative Assessment)	
3126.5.1 Explain how to determine the best regression equation model that approximates a particular data set.	SE/TE: P.4: 33-34, 1.1: 65-68, 1.2: 82, 1.7: 143-144, 146-147, 2.1: 161-163, 167-168, 2.2: 180-181, 3.1: 260-261, 3.2: 268-269, 3.4: 287-288, 3.5: 297-300, 10.5: 732-734
3126.5.2 Find the quadratic or exponential regression equations for a data set using a graphing calculator, spreadsheet, and/or estimation.	SE/TE: 1.7: 146-147, 2.1: 167-168, 3.1: 260-261, 3.2: 268-269, 3.5: 297-300
3126.5.3 Find the equation of the regression line that best fits data with a linear trend.	SE/TE: P.4: 33-34, 1.1: 67, 1.7: 144, 2.1: 161-163
3126.5.4 Find the regression equation that best fits exponential data.	SE/TE: 1.1: 67, 3.1: 260-261, 3.2: 268-269, 3.5: 297-300
3126.5.5 Use interpolation to calculate a new data point between two existing data points and identify potential errors.	SE/TE: P.4: 34, 1.1: 67-68, 1.7: 144, 147, 2.1: 163, 167-168, 2.2: 180-181
3126.5.6 Use extrapolation to construct new data points that fit a given trend and identify potential errors.	SE/TE: P.4: 34, 1.1: 67-68, 1.7: 144, 147, 2.1: 167-168, 2.2: 180-181, 3.1: 260-261, 3.2: 268-269