





Cornwall-Lebanon School District Curriculum Overview

Precalculus Honors – High School

 length of time in weeks	Concepts & Competencies	Common Assessments	Academic Standards (PA Core if applicable)
Unit 1 	<p style="text-align: center;"><u>Prerequisites</u></p> <p>Students will apply the distance and mid-point formulas. Students will solve one-variable linear equations. Students will solve one variable rational inequalities. Students will solve quadratic equations and inequalities.</p>	<ul style="list-style-type: none"> ➤ Quiz Sec P.1 – P.3 ➤ Quiz P.4 – P.5 	<p>CC.2.2.HS.D.4 CC.2.2.HS.D.7 CC.2.2.HS.D.9 CC.2.2.HS.D.10</p>
Unit 2 	<p style="text-align: center;"><u>Functions and Graphs</u></p> <p>Students will graph functions. Students will find the domain and range of functions. Students will evaluate the Difference Quotient. Students will determine if a function is even or odd. Students will find the composites of two or more functions. Students will interpret composites in the real-world context. Students will find the inverse of a function. Students will describe characteristics of inverse functions.</p>	<ul style="list-style-type: none"> ➤ Quiz Sec 1.1 ➤ Quiz Sec 1.2 & 4.2 ➤ Quiz Sec 1.3 - 1.4 ➤ Test Chapter 1 	<p>CC.2.2.HS.C.4 CC.2.2.HS.C.5 CC.2.2.HS.C.6</p>
Unit 3 	<p style="text-align: center;"><u>Polynomial and Rational Functions</u></p> <p>Students will graph quadratic functions. Students will use quadratic functions to model and solve real-life problems. Students will use the Leading Coefficient Test to determine left-handed and right-handed behavior. Students will find the maximum volume of a box. Students will perform synthetic division to divide polynomials. Students will use the Remainder and Factor Theorem. Students will be express numbers in binary and hexadecimal Students will perform arithmetic operations of complex numbers. Students will analyze and sketch rational functions.</p>	<ul style="list-style-type: none"> ➤ Quiz Sec 2.1 ➤ Quiz Sec 2.2 ➤ Quiz Binary & Hexadecimal & Complex Numbers ➤ Quiz Sec 2.6 & 2.7 	<p>CC.2.2.HS.C.4 CC.2.2.HS.C.6 CC.2.2.HS.D.4</p>

Unit 4	5	<p><u>Exponential and Logarithmic Functions</u></p> <p>Students will graph exponential and logarithm functions. Students will use exponential and logarithm functions to solve real-life problems. Students will use properties of logarithms to expand or condense expressions. Students will solve exponential and logarithm equations.</p>	<ul style="list-style-type: none"> ➤ Quiz Sec 3.1 – 3.2 ➤ Quiz Sec 3.3 – 3.4 ➤ Chapter 3 Test No Calculator ➤ Chapter 3 Test Calculator 	<p>CC.2.2.HS.C.5 CC.2.2.HS.C.6</p>
Unit 5	10	<p><u>Trigonometric Functions</u></p> <p>Students will convert between degree and radian. Students will be able to determine position on the plane using polar coordinates Students will evaluate trigonometric functions of any angle. Students will find angular and linear speed. Students will graph trigonometric functions. Students will graph transformations of trigonometric functions. Students will use fundamental trigonometric identities. Students will evaluate inverse functions. Students will use trigonometric functions to model and solve real-life problems.</p>	<ul style="list-style-type: none"> ➤ Quiz Sec 4.1 ➤ Quiz Polar Coordinates ➤ Quiz Sec 4.2 & 1.2 ➤ Quiz Sec 4.2 ➤ Quiz Sec 4.1 – 4.4 No Calculator ➤ Quiz Sec 4.2 – 4.4 Calculator ➤ Quiz Sec 4.5 ➤ Quiz Sec 4.6 – 4.8 ➤ 	<p>CC.2.2.HS.C.7 CC.2.2.HS.C.8 CC.2.2.HS.C.9</p>
Unit 6	4	<p><u>Analytic Trigonometry</u></p> <p>Students will use trigonometric identities to evaluate functions and simplify expressions. Students will verify trigonometric identities. Students will solve trigonometric equations. Students will use sum and difference formulas. Students will use the Law of Sines and Cosines to solve triangles.</p>	<ul style="list-style-type: none"> ➤ Quiz Sec 5.1 & 5.2 ➤ Quiz Sec 5.3 ➤ Quiz Sec 5.4 ➤ Quiz Sec 6.1 & 6.2 	<p>CC.2.2.HS.C.8</p>