# Cornwall-Lebanon School District Curriculum Overview

## Honors Algebra 2 – 10th grade

**Unit 1**

<table>
<thead>
<tr>
<th>Concepts &amp; Competencies</th>
<th>Common Assessments</th>
<th>Academic Standards (PA Core if applicable)</th>
</tr>
</thead>
</table>
| **Equations, Inequalities and Problem Solving** | - Algebra 1 Ready Check Test  
- Solving Equations and Inequalities Quiz  
- Test | CC.2.1.HS.F.2  
CC.2.2.HS.C.3  
CC.2.2.HS.C.6  
CC.2.2.HS.D.7  
CC.2.2.HS.D.8  
CC.2.2.HS.D.9  
CC.2.2.HS.D.10 |
| Students will solve equations and inequalities including linear, literal, and absolute value. Students will apply these concepts to real world situations. |  |  |

**Unit 2**

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| **Graphs & Functions** | - Writing Equations of Lines and Linear Regression Quiz  
- Domain, range and graphing functions Quiz  
- Graphing Inequalities, union and intersection Quiz  
- Unit Test | CC.2.1.HS.F.3  
CC.2.2.HS.D.7  
CC.2.2.HS.D.9  
CC.2.2.HS.D.10  
CC.2.2.HS.C.1  
CC.2.2.HS.C.2  
CC.2.2.HS.C.3  
CC.2.2.HS.C.4  
CC.2.2.HS.C.6  
CC.2.4.HS.B.2  
CC.2.4.HS.B.3 |
| Students will state the domain and range of functions and graphs. Students will write linear equations, including parallel and perpendicular lines. Students will graph linear equations, piecewise functions, linear inequalities and absolute value functions. Students will apply these concepts to real world situations. |  |  |

**Unit 3**

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</table>
| **Exponents, Polynomials, & Polynomials Functions** | - Properties of Exponents & Polynomials Quiz  
- Marking Period 1 Exam (cumulative)  
- Factoring Quiz  
- Unit Test | CC.2.1.HS.F.1  
CC.2.1.HS.F.7  
CC.2.2.HS.C.1  
CC.2.2.HS.C.4  
CC.2.2.HS.D.3 |
| Students will learn and apply properties of exponents. Students will add, subtract, and multiply polynomials. Students will factor polynomials, solve by factoring and apply these concepts to real world situations. |  |  |

**Unit 4**

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| **Rational Expressions** | - Multiplying & Dividing Rational Expressions Quiz  
- Adding & Subtracting Rational Expressions Quiz | CC.2.1.HS.F.2  
CC.2.2.HS.D.1  
CC.2.2.HS.D.6  
CC.2.2.HS.D.9 |
| Students will simplify and perform operations with rational expressions. Students will solve and graph rational equations. Students will apply these concepts to real world situations. |  |  |
| Unit 5 | Radical Expressions & Equations | Simplifying radical expressions & Rational Exponents Quiz  
Solving Radical Equations Quiz  
Midterm (cumulative)  
Operations with Radicals and Solving Radical Equations Quiz  
Complex Numbers Quiz  
Unit Test | CC.2.1.HS.F.1  
CC.2.1.HS.F.2  
CC.2.1.HS.F.6  
CC.2.1.HS.F.7  
CC.2.2.HS.C.4  
CC.2.2.HS.D.1  
CC.2.2.HS.D.6  
CC.2.2.HS.D.8  
CC.2.2.HS.D.9  
CC.2.2.HS.D.10 |
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<tbody>
<tr>
<td>4</td>
<td>Students will simplify and perform operations with radical expressions. Students will solve radical equations. Students will simplify expressions involving complex numbers. Students will apply properties of rational exponents to simplify expressions.</td>
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</tbody>
</table>
| Unit 6 | Quadratics | Solving Quadratics Quiz  
Graphing Quadratics Quiz  
Applications of Quadratics Quiz  
Quadratics Test | CC.2.1.HS.F.7  
CC.2.2.HS.C.5  
CC.2.2.HS.D.4 |
| 4 | Students will solve quadratic equations by square root property or quadratic formula. Students will solve nonlinear inequalities in one variable. Students will graph quadratic equations. Students will apply these concepts to real world situations. |  |  |
| Unit 7 | Probability and Statistics | Counting methods Quiz  
Probability Quiz  
Statistics Quiz  
Marking Period 3 Exam (cumulative) | CC2.4.HS.B.1  
CC2.4.HS.B.6  
CC2.4.HS.B.7 |
| 4 | Students will solve problems using the basic counting principal. Students will determine the probability and odds of an event and the probability of mutually inclusive and exclusive events. Students will calculate the central tendency and variation of data and represent the data graphically. Students will solve problems involving normally distributed data. |  |  |
| Unit 8 | Exponential and Logarithmic Functions | Functions Quiz  
Logarithmic Functions Quiz  
Exponential and Logarithmic Test | CC.2.2.HS.C.2  
CC.2.2.HS.C.4  
CC.2.2.HS.C.5  
CC.2.2.HS.D.8 |
| 4 | Students will evaluate functions and perform function operations. Students will find inverses of one to one functions. Students will simplify logarithmic expressions. Students will solve and graph logarithmic and exponential functions. |  |  |
### Unit 9
**3**

<table>
<thead>
<tr>
<th><strong>Systems of Equations &amp; Inequalities</strong></th>
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<tbody>
<tr>
<td>Students will solve systems of equations graphically and algebraically. Students will solve systems of inequalities and linear programming. Students will apply these concepts to real world situations.</td>
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</table>

- Solving Systems of Equations Quiz
- Applications of Systems of Equations Quiz
- Systems of Inequalities & Linear Programming Quiz

| CC.2.2.HS.C.3 |
| CC.2.2.HS.C.6 |
| CC.2.2.HS.D.9 |
| CC.2.2.HS.D.10 |

### Unit 10
**1**

<table>
<thead>
<tr>
<th><strong>Conics</strong></th>
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<tbody>
<tr>
<td>Students will define and graph a parabola when y is the independent variable. Students will define and graph a circle, ellipse and hyperbola.</td>
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- Define and Graph Conics Quiz
- Final Exam (cumulative)

| CC2.3.HS.A.10 |