**COURSE DESCRIPTION**

**Course Title:** Algebra 1B

**Course Number:** 00226

**Course Prerequisites:** This course is designed for the student who has passed Algebra IA.

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| **Course Description:** | Algebra IB is the second of the two year Algebra course; continuing the sequence of Algebra IA, Algebra IB, and Geometry. In order to take this course, a student must have passed Algebra IA. This course continues the study of numbers and operations, systems of equations and inequalities, polynomials, and data analysis and probability. A final exam is required. Keystone Exams are required of all students for graduation. If this state-mandated test is not passed, remediation will be required, and students will retake the exam. |

**Suggested Grade Level**: Grades 10-12

**Length of Course:** Two Semesters

**Units of Credit:** 1

**PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:**

CSPG #50

To find the CSPG information, go to [CSPG](https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx)

**Certification verified by the WCSD Human Resources Department:** Yes No

**WCSD STUDENT DATA SYSTEM INFORMATION**

**Course Level:** Academic

**Mark Types:** Check all that apply.

F – Final Average MP – Marking Period EXM – Final Exam

**GPA Type**:  GPAEL-GPA Elementary  GPAML-GPA for Middle Level  NHS-National Honor Society

UGPA-Non-Weighted Grade Point Average  GPA-Weighted Grade Point Average

**State Course Code**: 02054

To find the State Course Code, go to [State Course Code](https://nces.ed.gov/forum/sced.asp), download the Excel file for *SCED*, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

**TEXTBOOKS AND SUPPLEMENTAL MATERIALS**

**Board Approved Textbooks, Software, and Materials:**

**Title:**  enVision Algebra 1

**Publisher:** Pearson

**ISBN #:**  #10: 0-328-93154-3

**Copyright Date:** 2018

**WCSD Board Approval Date:** 6/29/2020

**Supplemental Materials:** Algebra 1 – Prentice Hall 2011 (foundations series) – ALL IN ONE TEACHING RESOURCES, Algebra I – Prentice Hall 2007 (green book), kutasoftware.com, getmoremath.com, pdesas.org

**Curriculum Document**

**WCSD Board Approval:**

**Date Finalized:** 6/5/2020

**Date Approved:**  6/29/2020

**Implementation Year:** 2020-2021

**SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS**

The teacher shall make appropriate modifications to instruction and assessment based on a student’s Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

**SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS**

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| **Performance Indicator** | **PA Core Standard and/or Eligible Content** | **Month Taught and Assessed for Mastery** |
| Review simplifying expressions by using the order of operations | A1.1.1.3.3, A1.1.1.4 | September  September |
| Review solving one-step and two-step equations | A1.1.2.1, A1.1.2.1.1, A1.1.2.1.2, A1.1.2.1.3 | September  Choose an item. |
| Use the Product Property of Square Roots to simplify radical expressions (numbers only, no variables!) | A1.1.1.1.2, A1.1.1.2, A1.1.1.3, A1.1.1.3.1 | September  October |
| Simplify sums and differences of radical expressions (numbers only, no variables) | A1.1.1.1.2, A1.1.1.2, A1.1.1.3, A1.1.1.3.1 | September  October |
| Simplify products and quotients of radical expressions (no rationalizing necessary) | A1.1.1.1.2, A1.1.1.2, A1.1.1.3, A1.1.1.3.1 | September  October |
| Solve quadratic equations using the Square Root Property (ax^2 + b = c) | A1.1.1.1.2, A1.1.1.2, A1.1.1.3, A1.1.1.3.1 | October  Choose an item. |
| Solve triangle problems using the Pythagorean Theorem | A1.1.1.1.2, A1.1.1.2, A1.1.1.3, A1.1.1.3.1 | October  Choose an item. |
| To simplify expressions involving zero and negative exponents | A1.1.1.1, A1.1.1.3.3 | October  November |
| To multiply powers with the same base | A1.1.1.1, A1.1.1.3.3 | October  November |
| To raise a power to a power | A1.1.1.1, A1.1.1.3.3 | October  November |
| To raise a product to a power | A1.1.1.1, A1.1.1.3.3 | October  November |
| To divide powers with the same base | A1.1.1.1, A1.1.1.3.3 | October  November |
| To raise a quotient to a power | A1.1.1.1, A1.1.1.3.3 | October  November |
| To write numbers in scientific and standard notation | A1.1.1.1, A1.1.1.2, A1.1.1.3.3, A1.1.1.4 | October  November |
| To compare and order numbers using scientific notation | A1.1.1.1, A1.1.1.3.3 | October  November |
| Classify polynomials by their degree and number of terms | A1.1.1.1.1 | November  Choose an item. |
| Write polynomials in standard form | A1.1.1.1.1, A1.1.1.5.4, A1.1.1.5.6 | November  Choose an item. |
| Add and subtract polynomials | A1.1.1.5.4, A1.1.1.5.6 | November  Choose an item. |
| Multiply polynomials (no larger than a binomial times a trinomial) | A1.1.1.5.4, A1.1.1.5.6 | November  Choose an item. |
| Find the square of a binomial | A1.1.1.5.4, A1.1.1.5.6 | November  Choose an item. |
| Use the sum and difference pattern | A1.1.1.5.4, A1.1.1.5.6 | November  Choose an item. |
| Factor polynomials using the GCF | A1.1.1.2.1, A1.1.1.5.2 | December  Choose an item. |
| Factor trinomials without a leading coefficient | A1.1.1.2.1, A1.1.1.5.2 | December  Choose an item. |
| Factor trinomials with a leading coefficient (the leading coefficient is always the GCF) | A1.1.1.2.1, A1.1.1.5.2 | December  Choose an item. |
| Factor special-case polynomials (difference of squares, perfect square trinomial) | A1.1.1.2.1, A1.1.1.5.2 | December  January |
| Use polynomials and their operations to model real-world problems | A1.1.1.5.4, A1.1.1.5.6 | December  January |
| Simplify rational expressions | A1.1.1.5.9 | January  Choose an item. |
| Identify solutions of quadratic equations when provided with the graph | A-REI.4b | January  Choose an item. |
| Use the Zero-Product Property to solve quadratic equations by factoring | A1.1.1.5.2, A-REI.4b | January  Choose an item. |
| Represent and interpret data using various representations (dot plot, histogram, Box-and-Whisker plot) | A1.2.3.2, A1.2.3.2.2, A1.2.3.2, A1.2.3.1 | January  February |
| To find mean, median, mode and range | A1.2.3.2, A1.2.3.2.2, A1.2.3.2, A1.2.3.1 | January  February |
| Compare data sets that are displayed with the same representation (dot plot, histogram, Box-and-Whisker plot) | A1.2.3.2.2, A1.2.3.2, A1.2.3.2 | January  February |
| Interpret and compare shapes of distributions | A1.2.3.2, A1.2.3.2.2 | January  February |
| Compute the theoretical and experimental probability of a single event | A1.2.3.3 | February  Choose an item. |
| Compute the probability of compound events (“and” versus “or”, replacement versus no replacement) | A1.2.3.3, A1.2.3.3.1 | February  Choose an item. |
| Review the skill of writing linear equations from Algebra 1A- writing equations in slope-intercept form, point-slope form, and standard form | A1.1.2.1 | February  Choose an item. |
| Review the skill of graphing linear equations from Algebra 1A- graph equations in slope-intercept form, point-slope form, and standard form | A1.1.2.1 | February  Choose an item. |
| Verify solutions to systems of equations | A1.1.2.2.1 | March  Choose an item. |
| Solve systems of equations by graphing | A1.1.2.2.1, A1.1.2.1.1, A1.1.2.1.3 | March  Choose an item. |
| Solve systems of equations by substitution | A1.1.2.2.1, A1.1.2.1.1, A1.1.2.1.3 | March  Choose an item. |
| Solve systems of equations by elimination | A1.1.2.2.1, A1.1.2.1.1, A1.1.2.1.3 | March  Choose an item. |
| Identify systems with infinitely many or no solutions from using any method | A1.1.2.2.1, A1.1.2.1.1, A1.1.2.1.3 | March  Choose an item. |
| Write systems of equations to model and solve real-world problems | A1.1.2.2.1, A1.1.2.1.1, A1.1.2.1.3 | Choose an item.  March |
| Graph a linear inequality in two variables | A1.1.3.2, A1.1.3.1.9 | March  April |
| Write a two-variable inequality to model a graph | A1.1.3.2 | March  April |
| Graph a system of linear inequalities in two variables | A1.1.3.2 | March  April |
| Write a system of linear inequalities in two variables to model a graph | A1.1.3.2 | March  April |
| Keystone Review (all of Algebra 1A and Algebra 1B) | Click or tap here to enter text. | April  May |

**ASSESSMENTS**

**PSSA Academic Standards, Assessment Anchors, and Eligible Content:** The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

**Formative Assessments:** The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

**Effective formative assessments for this course include: Suggested but not limited to:** Observations, Evaluate written work, Evaluate oral response, student self-evaluation, Cooperative learning, Homework, Classroom Diagnostic Tool

**Summative Assessments:** The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

**Effective summative assessments for this course include:** Suggested but not limited to: Performance Assessment, Quizzes, and Chapter/Units Tests