



Algebra 1 Instruction in the West Shore School District

Algebra 1 instruction in the West Shore School District is aligned to the PA Core Standards and prepares students to be successful on their grade level PSSA and Algebra 1 Keystone exam. This document communicates an overview of the focus of mathematics instruction at the Algebra 1 level addressed in the PA Core Standards. The PA Core Mathematics Standards include Standards for Mathematical Content and Standards for Mathematical Practice. There are four core areas in the Standards: (1) Numbers and Operations, (2) Algebraic Concepts, (3) Geometry, and (4) Measurement, Data, and Probability. We utilize a variety of strategies and differentiate our instruction to meet the needs of all learners. Technology and 21st Century Skills are utilized to enhance instruction and to improve understanding. This document is meant to offer an overview of important concepts at the Algebra 1 level and within each Standard area. Parents are encouraged to talk with the teacher to find out more about specific strategies, content examples, and resources used in their child's classroom

Best Practices in Algebra I:

- Students will be able to independently use their learning to:
- Make sense of and persevere in solving complex and novel mathematical problems.
- Use effective mathematical reasoning to construct viable arguments and critique the reasoning of others.
- Communicate precisely when making mathematical statements and express answers with a degree of precision appropriate for the context of the problem/situation.
- Apply mathematical knowledge to analyze and model situations/relationships using multiple representations and appropriate tools in order to make decisions, solve problems, and draw conclusions.
- Make use of structure and repeated reasoning to gain a mathematical perspective and formulate generalized problem solving strategies.
- Mathematical relationships among numbers can be represented, compared, and communicated.
- Mathematical relationships can be represented as expressions, equations, and inequalities in mathematical situations.
- Patterns exhibit relationships that can be extended, described, and generalized.
- Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.
- Numerical quantities, calculations, and measurements can be estimated or analyzed by using appropriate strategies and tools.
- Data can be modeled and used to make inferences.
- Patterns exhibit relationships that can be extended, described, and generalized.
- Geometric relationships can be described, analyzed, and classified based on spatial reasoning and/or visualization

Skills and Concepts:

Foundations of Algebra
Relations and Functions
Geometry
Graphing Linear Equations
Systems of Linear Equations
Inequalities
Polynomials
Rational Expressions
Data Analysis

Assessments:

WSSD utilizes a variety of assessments to monitor student growth and achievement. Our teachers engage in daily informal formative assessments to make timely decision about whether a student understands the material and concepts being presented. We also utilize several summative assessments to determine if a student has mastered grade level skills and standards.

Some of the assessment utilized are:

Classroom Diagnostic Tools
Teacher-created Assessments
Common District Assessments

Item samples for Algebra 1 Keystone and the PSSA:

[Assessment Anchors](#)
[Algebra 1](#)

Materials and Resources:

WSSD utilizes a variety of resources to meet all learners' needs.

Parent Resources:

Khan Academy
[Online Math Tools](#)