

Grade Level / Course Summary with Big Ideas:

Intermediate Algebra 9 is a half-year course. It reviews all topics taught in Algebra 1 plus additional topics. Additional topics include Quadratic Functions and Factoring, Polynomials and Polynomial Functions, Rational Exponents, Rational Functions, and Radical Functions. At conclusion of course all students will take the Pennsylvania Keystone Algebra Test.

Long-Term Transfer Goals (Big Ideas): Students will be able to use their learning to:

1. Make sense of and persevere in solving complex and novel mathematical problems.
2. Use effective reasoning to construct viable arguments and critique the reasoning of others.
3. Communicate precisely when making mathematical statements with a degree of precision appropriate for the context of the problem.
4. 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.
5. Make use of structure, pattern, and repeated reasoning to gain a mathematical perspective and formulate generalized problem-solving strategies.

Course Objectives:

1. Mathematical relationships among numbers can be represented, compared, communicated.
2. Mathematical relationships can be represented as expressions, equations, and inequalities.
3. Mathematical relations and functions can be modeled through multiple representations and analyzed to raise and answer questions.
4. Patterns exhibit relationships that can be extended, described, and generalized.
5. Data can be modeled and used to make inferences.

[Additional unit objectives and lesson objectives contained in teacher planning documents]

Grade Level Modules (Units):

**Suggested Timeline
of Weeks or # of Class Periods/Lessons**

1. Equations and Inequalities	10 lessons
2. Operations with Real Numbers and Expressions	25 lessons
3. Systems of Equations and Inequalities	10 lessons
4. Functions	20 lessons
5. Coordinate Geometry	15 lessons
6. Data Analysis	10 lessons

Learning Activities/Modes of Formative and Summative Assessment:

- Bell Ringers
- Homework
- Classwork
- Computer Assignments
- Group Work
- Formal Assessments (Quizzes, Tests)

Primary Instructional Resources:

- Unlocking The Keystone Exam: Algebra 1 Workbook
- Algebra 2 Common Core Textbook - Glencoe – McGraw Hill Education, 2014
- Appropriate Internet resources