Algebra I Part 10A

Curriculum Guide

Scranton School District

Scranton, PA

Algebra I Part 10A

Prerequisite :

- Successful completion of Pre Algebra in 9th grade.

Intended Audience: This course is designed for the student who has successfully completed Pre-Algebra by the end of the 9th grade.

Algebra I Part 9A and Algebra I Part 10B/K together create an Algebra I course taken over two years. The students who select Algebra I Part 9A in ninth grade will complete their studies of Algebra I when they complete the Algebra I Part 10B/K course in tenth grade. These Algebra courses are designed for students who may experience difficulty with a one year Algebra I course Topics covered focus on the Pennsylvania Common Core Standards and are parallel to the Algebra I course, presenting all the same major topics but with a different depth, breadth, and pace, thus allowing time for discovering and understanding basic concepts.

At the culmination of the Algebra I Part 10B/K, the students will sit for the Keystone Algebra I Exam, a Pennsylvania graduation requirement. After successfully completing the course, students will be allowed to enroll in Geometry 11 or Applied Geometry 11.

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Year-at-a-glance

Subject: Algebra I 10A	**Grade Level: 10**	**Date Completed: 10-22-14**

1st Quarter

Topic	**Resources**	**CCSS**
Review Pre-Algebra Skills: Evaluating and simplifying expressions, order of operations, integer operations, exponential and standard notation, simplifying basic square roots, review properties of real numbers	**Big Ideas Math Algebra 1** online teacher resources	
Represent and use numbers in equivalent forms	Keystone Finish Line workbook	A1.1.1.1.1

2nd Quarter

Topic	Resources	CCSS
Solving Linear Equations: 1-step, 2-step, combining like terms, with the distributive property, with variables on both sides.	**Big Ideas Math Algebra 1** Chapter 1	A1.1.2.1.2, A1.1.2.1.1
Solving and graphing linear inequalities: including identifying the solution set of an inequality. Solving compound inequalities	**Big Ideas Math Algebra 1** Chapter 2	A1.1.3.1.2, A1.1.3.1.3, A1.1.3.1.1

3rd Quarter

Topic	Resources	CCSS
Concepts of functions: domain/range, determining whether a function is a relation, function notation, evaluating functions	**Big Ideas Math Algebra 1** Chapter 3	A1.2.1.1.3, A1.2.1.1.2, A1.2.1.1.1
Rate of change problems	**Big Ideas Math Algebra 1** hapter 3	A1.2.2.1.1, A1.2.2.1.2
Graph linear equations using t-table, intercepts, and slope and the y intercept	**Big Ideas Math Algebra 1** Chapter 3	A1.1.2.1.3, A1.2.1.2.1, A1.2.1.2.1
Scatter plots: writing line of best fit and making predictions	**Big Ideas Math Algebra 1** Chapter 4	A1.2.2.2.1,

4th Quarter

Topic	Resources	CCSS
Writing linear equations	**Big Ideas Math Algebra 1** Chapter 4	A1.2.2.1.3, A1.2.3.2.3
Identifying slope	**Big Ideas Math Algebra 1** Chapter 4	A1.2.2.1.2
Probability and statistics	**Big Ideas Math Algebra 1** Chapter 4	A1.2.3.3.1, A1.2.3.1.1, A1.2.3.2.1, A1.2.3.2.2
Final Review		

General Topic	Academic Standard(s)	Essential Knowledge, Skills & Vocabulary	Resources & Activities	Assessments	Suggested Time
Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).	**A1.1.1.1.1**	**Compare and/or order any real numbers. Rational and irrational may be mixed.**	**Keystone Algebra I Workbook: Chapter 1 Section 1**		**20 days**
Use Estimation strategies in problem-solving situations	**A1.1.1.4.1**	**Use estimation to solve problems**	**Use throughout the year**		**5 days**

Linear Equations	**A1.1.2.1.2**	**Use and/or identify an algebraic property to justify any step in an equation-solving process.** **Note: Linear equations only** **Vocabulary:** • **Additive inverse** • **Multiplicative Inverse** • **Commutative property** • **Associative Property** • **Identity Property** • **Distributive Property** • **Multiplicative Property of Zero** • **Additive Property of Equality** • **Multiplicative Property of Equality**	**Big Ideas Math Algebra 1 Chapter 1**		**25 days**
Linear Equations		**Solve linear equations by clearing fractions and decimals from the equation by:** **a. Using the appropriate power of 10.** **b. Using the least common multiple of the denominator**	**Supplemental Materials**		**5 days**

Linear Equations		**Solve linear equations involving absolute value**	**Big Ideas Math Algebra 1 Chapter 1**		**5 days**
Linear Equations		**Write and/or solve proportions**	**Supplemental Materials**		**5 days**
Linear Equations		**Solve percent problems including percent change, percent increase, percent decrease, and percent error.**	**Supplemental Materials**		**5 days**
Linear Equations	**A1.1.2.1.1**	**Write, solve, and/or apply a linear equation (including problem situations).**	**Big Ideas Math Algebra 1 Chapter 1**		**10 days**
Linear Inequalities	**A1.1.3.1.2**	**Identify or graph the solution set to a linear inequality on a number line.**	**Big Ideas Math Algebra 1 Chapter 2**		**5 days**
Linear Inequalities	**A1.1.3.1.3**	**Interpret solutions to the problems in the context of the problem situations. Note: Linear in equalities only.**	**Big Ideas Math Algebra 1 Chapter 2**		**5 days**
Linear Inequalities	**A1.1.3.1.1**	**Write or solve compound in equalities and/or graph their solution sets on a number line (may include absolute value Inequalities).**	**Big Ideas Math Algebra 1 Chapter 2**		**5 days**

Functions	**A1.2.1.1.3**	**Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table). Vocabulary:** • **Range** • **Domain**	**Big Ideas Math Algebra 1 Chapter 3.1**		**5 days**
Functions	**A1.2.1.1.2**	**Determine whether a relation is a function, given a set of points or a graph.**	**Big Ideas Math Algebra 1 Chapter 3.1**		**2 days**
Functions	**A1.2.1.1.1**	**Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.**	**Big Ideas Math Algebra 1 Chapter 3.1**		**5 days**
Rate Of Change	**A1.2.2.1.1**	**Identify, describe, and/or use constant rates of change.**	**Big Ideas Math Algebra 1 Chapter 3.2**		**3 days**
Rate Of Change	**A1.2.2.1.2**	**Apply the concept of linear rate of change (slope) to solve problems.**	**Big Ideas Math Algebra 1 Chapter 3.2-3.5**		**3 days**

Linear Equations with two variables	**A1.2.2.1.3**	**Write or identify a linear equation when given** • **The graph of the line,** • **Two points on the line, or** • **The slope and a point on the line.** **Note: Linear equation may be in point-slope, standard, and/or slope-intercept form.**	**Big Ideas Math Algebra 1 Chapter 4.1-4.3**		**5 days**
Linear Equations with two variables		**Write or identify a linear equation parallel or perpendicular to a given line.**	**Big Ideas Math Algebra 1 Chapter 4.1-4.3**		**5 days**
Linear Equations with two variables	**A1.2.2.1.4**	**Determine the slope and/or y-intercept represented by a linear equation or graph.**	**Big Ideas Math Algebra 1 Chapter 3.2-3.5**		**4 days**
Linear Equations with two variables	**A1.1.2.1.3**	**Interpret solutions to problems in the context of the problem situation. Note: Linear equations only.**	**Use throughout the unit**		**5 days**
Linear Equations with two variables	**A1.2.2.2.1**	**Draw, identify, find, and/or write an equation for a line to best fit for a scatter plot.**	**Big Ideas Math Algebra 1 Chapter 4.4**		**5 days**

Linear Equations with two variables	**A1.2.3.2.3**	**Make predictions using the equations or graphs of best-fit lines of scatter plots**	**Big Ideas Math Algebra 1 Chapter 4.5**		**3 days**
Linear Equations with two variables	**A1.2.1.2.1**	**Create, interpret, and/or use the equation, graph, or table of al linear function.**	**Big Ideas Math Algebra 1 Chapter 3.2-3.5**		**5 days**
Linear Equations with two variables	**A1.2.1.2.2**	**Translate from one representation of a linear function to another (i.e., graph, table, and equation).**	**Big Ideas Math Algebra 1 Chapter 3.2-3.5**		**5 days**
Apply Probability to practical situations	**A1.2.3.3.1**	**Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal or percent.**	**Big Ideas Math Algebra 1 Chapter 11**		**5 days**
Use measures of dispersion to describe a set of data	**A1.2.3.1.1**	**Calculate and/or interpret the range, quartiles, and interquartile range of data**	**Big Ideas Math Algebra 1 Chapter 11**		**5 days**
Use data displays in the problem-solving settings and/or to make predictions	**A1.2.3.2.1**	**Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation.**	**Big Ideas Math Algebra 1 Chapter 11**		**5 days**

Use data displays in the problem-solving settings and/or to make predictions	**A1.2.3.2.2**	**Analyze data, make predictions, and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots, scatter plots, measure of central tendency, or other representations)**	**Big Ideas Math Algebra 1 Chapter 11**		**5 days**
Final Exam Review					**10 days**