

Course: ALGEBRA 1/2 Sub-topic: Algebra

Course Description:	CC Algebra 1/2 continues the algebraic concepts learned in 8th grade mathematics. Topics include solving linear equations and inequalities, graphing linear equations and inequalities, functions and their absolute value equations and inequalities, systems of equations and inequalities, exponents, polynomials, applications, and reasoning.
----------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Unit

• TYPES / CLASSIFICATIONS OF NUMBERS

• PROPERTIES OF NUMBERS

• OPERATIONS WITH FRACTIONS

• SIMPLIFYING USING ORDER OF OPERATIONS

• EVALUATING EXPRESSIONS USING VARIABLES

- SIMPLIFYING EXPRESSIONS

• STANDARDIZED TEST APPLICATIONS (KEYSTONE/SAT/PSAT/ACT/ETC.) – WORD PROBLEMS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

A1.1.1 (Advanced) Operations with Real Numbers and Expressions

A1.1.1.1.1 (Advanced) Compare and/or order any real numbers. Note: Rational and irrational may be mixed.

Minutes for Topic: 172

Minutes for Topic: 86

Minutes for Topic: 86

Minutes for Topic: 172

Minutes for Topic: 172

Minutes for Topic: 172

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

A1.1.2 (Advanced) Linear Equations

A1.1.2 (Advanced)	Linear Equations	Graphing
A1.1.2.1 (Advanced)	Write, solve, and/or graph linear equations using various methods.	

A1.1.2.1.1 (Advanced) Write, solve, and/or apply a linear equation (including problem & situations).

A1.1.2.1.2 (Advanced) Use and/or identify an algebraic property to justify any step in an equation-solving process. Note: Linear equations only.

A1.1.2.1.3
(Advanced)
Interpret solutions to problems in the context of the problem situation. Note: Linear equations only.

Topic: 2.1 - Solving Equations

Minutes for Topic: 172

Topic: 2.2 - Consecutive Integers

Minutes for Topic: 172

Topic: 2.3 - Geometry Applications

Minutes for Topic: 86

Topic: 2.4 - Money and Length Applications

Minutes for Topic: 86

Topic: 2.5 - Unit 2 Review and Test

Minutes for Topic: 172

Unit: Unit 3 - One-Variable Linear Inequalities

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

[A1.1.3.1.2 \(Advanced\)](#) Identify or graph the solution set to a linear inequality on a number line.

Topic: 3.1 - Solve Linear Inequalities and Graph

Minutes for Topic: 172

Topic: 3.2 - Solve Compound Inequalities and Graph

Minutes for Topic: 258

Topic: 3.3 - Review All Inequalities

Minutes for Topic: 86

Topic: 3.4 - Inequalities Applications

Minutes for Topic: 344

Topic: 3.5 - Unit 3 Review and Test

Minutes for Topic: 172

Unit: Unit 4 - Absolute Value

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

[A1.1.1.3 \(Advanced\)](#) Use exponents, roots, and/or absolute values to solve problems.

[A1.1.1.3.1 \(Advanced\)](#) Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems. Note: Exponents should be integers from –10 to 10.

[A1.1.3.1.1 \(Advanced\)](#) Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).

Topic: 4.1 - Solving Absolute Value Equations

Minutes for Topic: 258

Topic: 4.2 - Solving Absolute Value Inequalities

Minutes for Topic: 258

Topic: 4.3 - Writing Absolute Values from Graph

Minutes for Topic: 86

Topic: 4.4 - Absolute Value Applications

Minutes for Topic: 172

Topic: 4.5 - Unit 4 Review and Test

Minutes for Topic: 258

Unit: Unit 5 - Functions and Slope

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

[A1.2.1 \(Advanced\)](#) Functions

A1.2.1.1.2
(Advanced)

Determine whether a relation is a function, given a set of points or a graph.

Topic: 5.1 - Functions and Relations

Minutes for Topic: 86

Topic: 5.2 - Function Notation

Minutes for Topic: 86

Topic: 5.3 - Slope and Applications

Minutes for Topic: 516

Topic: 5.4 - Unit 5 Review and Test

Minutes for Topic: 172

Unit: Unit 6 - Graphing Linear Equations and Inequalities

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

A1.1.2 (Advanced) Linear Equations

A1.1.2.1 (Advanced) Write, solve, and/or graph linear equations using various methods.

A1.1.2.1.1 (Advanced) Write, solve, and/or apply a linear equation (including problem situations).

A1.1.2.1.2 (Advanced) Use and/or identify an algebraic property to justify any step in an equation-solving process. Note: Linear equations only.

A1.1.2.1.3 (Advanced) Interpret solutions to problems in the context of the problem situation. Note: Linear equations only.

Topic: 6.1 - Graphing Linear Equations

Minutes for Topic: 258

Topic: 6.2 - Graphing Inequalities and Applications

Minutes for Topic: 344

Topic: 6.3 - Unit 6 Review and Test

Minutes for Topic: 258

Unit: Unit 7 - Writing Equations of Lines / Lines of Best Fit

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

A1.1.2 (Advanced) Linear Equations

A1.1.2.1 (Advanced) Write, solve, and/or graph linear equations using various methods.

A1.1.2.1.1 (Advanced) Write, solve, and/or apply a linear equation (including problem situations).

A1.1.2.1.2 (Advanced) Use and/or identify an algebraic property to justify any step in an equation-solving process. Note: Linear equations only.

A1.1.2.1.3 (Advanced) Interpret solutions to problems in the context of the problem situation. Note: Linear equations only.

A1.2.2.1.3 (Advanced) 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.

A1.2.2.1.4 (Advanced) Determine the slope and/or y-intercept represented by a linear equation or graph.

Topic: 7.1 - Writing Linear Equations

Minutes for Topic: 258

Topic: 7.2 - Writing Linear Inequalities

Minutes for Topic: 86

Topic: 7.3 - Linear Equations / Inequality Applications

Minutes for Topic: 86

Topic: 7.4 - Lines of Best Fit and Applications

Minutes for Topic: 172

Topic: 7.5 - Unit 7 Review and Test

Minutes for Topic: 172

Unit: Unit 8 - Systems of Equations

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

[A1.1.2.2 \(Advanced\)](#) Write, solve, and/or graph systems of linear equations using various methods.

[A1.1.2.2.1 \(Advanced\)](#) Write and/or solve a system of linear equations (including problem situations) using graphing, substitution, and/or elimination. Note: Limit systems to two linear equations.

[A1.1.2.2.2 \(Advanced\)](#) Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear equations.

Topic: 8.1 - Graphing Systems of Equations

Minutes for Topic: 172

Topic: 8.2 - Solve Systems by Substitution

Minutes for Topic: 86

Topic: 8.3 - Solve Systems by Elimination

Minutes for Topic: 86

Topic: 8.4 - Systems of Equations Applications

Minutes for Topic: 86

Topic: 8.5 - Unit 8 Review and Test

Minutes for Topic: 172

Unit: Unit 9 - Systems of Inequalities

STANDARDS: STANDARDS

STATE: Pennsylvania SAS Keystone Anchors (2010-2014)

[A1.1.3.2 \(Advanced\)](#) Write, solve, and/or graph systems of linear inequalities using various methods.

[A1.1.3.2.1 \(Advanced\)](#) Write and/or solve a system of linear inequalities using graphing. Note: Limit systems to two linear inequalities.

[A1.1.3.2.2 \(Advanced\)](#) Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear inequalities.

Topic: 9.1 - Graphing Systems of Inequalities

Minutes for Topic: 172

Topic: 9.2 Applications

Minutes for Topic: 86

Topic: Unit 9 - Unit 9 Review and Test

Minutes for Topic: 172

Unit: Final Exam

Topic: Final Exam Review

Minutes for Topic: 172

Topic: Final Exam

Minutes for Topic: 180