

# High School Course Description SDC Algebra IA

**Course Title:** SDC Algebra IA

**Course Number:** SDC105/106

**Grade Level:** 8-12

**Meets a UC a-g Requirement:** No

**Curricular Area:** Mathematics / Special Education

**Length:** One Year

**Prerequisites:** IEP Placement

**Meets NCAA Requirement:** No

**Meets High School Graduation Requirement for:**  
Mathematics / Algebra

## Course Description

Algebra IA is part one of an algebra sequence designed to enable students to pass the Math portion of the California High School Exit Examination and to provide them with the math and thinking skills necessary for the workplace. Through the study of math reasoning, number sense, algebra, and beginning geometry, students work to master basic mathematical and algebraic functions. In addition, students develop an understanding of symbolic language of mathematics and the sciences.

## Alignment

This course is aligned to Algebra I Content Standards for California Public Schools and the California High School Exit Examination Mathematics Blueprints.

## Instructional Materials

### Required textbook(s)

*Pace Maker, Algebra I*, AGS Pearson 2007, ISBN 0-13-023-638-1

### Supplemental Material

Student Workbook: *PM Algebra I*  
CGP Course II

## Exit Criteria

<u>Activities</u>	<u>Percentage</u>
Homework and Class Participation.....	40%
Tests and Quizzes .....	40%
Final Examination.....	20%
Total:	100%

## Development Team

This Course of Study was created Spring 2009 by Fran Durdle (BHS) and Priya Morlock (CPS)

Colton Joint Unified School District Course of Study  
Pacing Guide for SDC Algebra IA

## SEMESTER ONE

### First Quarter

Weeks	Standards**	Chapter(s)/Textbook
1-3	Grade 7 AF 1.2 Number Sense	Review/Assess /Chap. 1 - <i>PM Algebra I</i> Lesson 1.1.3 - <i>CGP Course two</i>
4-6	Grade 7 NS 1.2** Rational Numbers	Chapter 1 - Numbers for Algebra <i>PM Alg. I</i> Chapter 2 - Tools for Algebra <i>PM Algebra I</i> Chapter 2, 5 - <i>CGP Course Two</i>
7-9	Grade 7 AF 4.0** Linear Equations	Chapter 2: Tools for Algebra - <i>PM Algebra I</i> Chapter 1, 4: - <i>CGP Course Two</i>

### Second Quarter

Weeks	Standards**	Chapter(s)/Textbook
1-3	Grade 7 MG 2.0 Area, Perimeter, Volume	Chapter 2:14 - <i>PM Algebra I</i> Chapter 8 - <i>PM Geometry</i> Chapter 3, 7 - <i>CGP Course Two</i>
4-6	Grade 7 AF 4.1** Two-step linear equations	Chap. 3: Solving Equations - <i>PM Algebra I</i> Review Chap. 3, 7 - <i>CGP Course Two</i>
7-9	Grade 7 NS 1.7** Discounts, mark-up, etc.	Pgs. 61, 86, 88, 380 - <i>PM Algebra I</i> Chapter 8: - <i>CGP Course Two</i>

## SEMESTER TWO

### Third Quarter

Weeks	Standards**	Chapter(s)/Textbooks
1-3	Grade 7 AF1.5—Represent quantitative relationships	Chap. 4: Functions - <i>PM Algebra I</i> Review Chaps. 1,4 - <i>CGP Course Two</i>
4-6	Grade 7 AF 3.3** - Graphing linear equations	Chap. 5: Linear Equations - <i>PM Algebra I</i> Chap. 2 review - <i>CGP Course Two</i>
7-9	Grade 7 MG 1.3** Measures expressed as rates	Chap. 5:11, pgs. 329, 352 – <i>PM Algebra I</i> Review Chapter 4 - <i>CGP Course Two</i>

### Fourth Quarter

Weeks	Standards**	Unit/Chapter(s)
1-3	Grade 7 AF 4.2**—Multi-step problems	Chap. 5: P. 329 <i>PM Algebra I</i> Review Chapter 4 - <i>CGP Course Two</i>
4-6	Grade 7 AF 3.3** - Graph linear x & y intercept	Chapters 5 & 6 – <i>PM Algebra I</i> Review Chapter 4 - <i>CGP Course Two</i>
7-9	Grade 7 MG 3.3** - Graph simple figures, Pythagorean theorem	Chap. 13 ( <i>PM Alg. I</i> ), Chap. 6 ( <i>PM Geo.</i> ) Chapter 2 - <i>CGP Course Two</i>

\*\*"power standards" from CAHSEE Mathematics Blueprint

Secondary Curriculum Council Approved September 8, 2009

Board approved October 1, 2009

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printed 07/01/16

## UNIT PLANS

### 1<sup>st</sup> Quarter

UNIT 1: Number Sense	Weeks: 1-3
UNIT 2: Rational Numbers	Weeks: 4-6
UNIT 3: Linear Equations	Weeks: 7-9

### 2<sup>nd</sup> Quarter

UNIT 4: Area, Perimeter, Volume	Weeks: 1-3
UNIT 5: 2-Step Linear Equations	Weeks: 4-6
UNIT 6: Discounts, markups	Weeks: 7-9

### 3<sup>rd</sup> Quarter

UNIT 7: Quantitative Relationships	Weeks: 1-3
UNIT 8: Graphing Linear Equations	Weeks: 4-6
UNIT 9: Rates	Weeks: 7-9

### 4<sup>th</sup> Quarter

UNIT 10: Multi-step Problems	Weeks: 1-3
UNIT 11: Slope Intercept	Weeks: 4-6
UNIT 12: Pythagorean Theorem	Weeks: 7-9

The following standards are used throughout the curriculum by including applications / word problems and requiring reasoning and justification on a consistent basis.

- NS 1.2\*\* Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.
- NS 1.5\*\* Know that every rational number is either a terminating or a repeating decimal and be able to convert terminating Decimals into reduced fractions
- NS 1.7\*\* Solve problems that involve discounts, markups, commissions, and profit and compute simple and compound interest
- AF 1.2 Use the correct order of operations to evaluate algebraic expressions
- AF 1.5 Represent quantitative relationships graphically and interpret the meaning of a specific part of a graph in the situation Represented by the graph
- AF 3.3\*\* Graph linear functions, noting that the vertical change (change in y-value) per unit of horizontal change (change in x-value) is always the same and know that the ratio ("rise over run") is called the slope of the graph.
- AF 4.0\*\* Students solve simple linear equations and inequalities over the rational numbers
- AF 4.1\*\* Solve two-step linear equations and inequalities over the rational numbers, interpret the solution or solutions in the Context from which they arose, and verify the reasonableness of the results
- AF 4.2\*\* Solve multistep problems involving rate, average speed, distance, and time or a direct variation
- MG 1.3\*\* Use measures expressed as rates (e.g. speed, density) and measures expressed as products (e.g. person-days) to solve Problems; check the units of the solutions; and use dimensional analysis to check the reasonableness of the answer
- MG 3.3\*\* Know and understand the Pythagorean theorem and its converse and use it to find the length of the missing side of a right triangle and the lengths of other line segments and, in some situations, empirically verify the Pythagorean theorem by direct measurement
- MR 2.1 Use estimation to verify the reasonableness of calculated results

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**Learning Experiences and Instruction:**

Teachers utilize the Direct Interactive Instruction model to introduce new skills and concepts that are essential to the CAHSEE standards, then reinforce and develop those skills each quarter with the goal of bringing students to mastery by the end of the fourth quarter. All instruction will be based on the “I do, We do, You do” scaffolding model with an emphasis on individual differentiation as needed. Teachers will use a variety of the following:

- Inquiry-based learning
- Engaged reading opportunities
- Think-pair-share
- Reciprocal teaching
- Cloze reading & writing
- Guided reading & writing
- Cognitive modeling
- Questioning strategies
- Graphic organizers/concept attainment
- Student-led groups/ peer pairing
- Metacognitive learning: self-regulation, goal-setting, self-monitoring, and self-questioning

**Support for English Language Learners:**

SDAIE strategies  
Flexible grouping  
Peer pairing  
Realia  
Texts/materials in first language  
Instructional Aide

**Support for Special Education Students:**

As this is an SDC class, it is designed to meet the needs of the class and of individuals. All students’ IEP goals and accommodations will be addressed using a combination of the following:

- Instructional Aide
- Audio & visual aids
- Modified texts
- Flexible grouping
- Testing accommodations
- Tutoring (peer & teacher)
- Computer-Guided instruction

**Stretching the Lesson for GATE Students:**

Independent study supplemented with mentoring/tutoring  
Depth & Complexity icons  
Enriched materials and learning experiences