The Correlation of PLATO® instructional curricula to California Academic Content Standards (CACS)

Mathematics

Grade 6–7

April 13, 2005

PLATO Learning Correlation to the California Academic Content Standards

INTRODUCTION

PLATO Learning, Inc. combines PLATO® computer-assisted instruction into a flexible, integrated learning system to enhance instructional effectiveness in education programs. This document identifies PLATO® instructional activities that correlate to the California Academic Content Standards, Mathematics.

It is recommended that instructors review the correlation in order to fine-tune the activity to fit their educational environment. Modules may be added or removed; web sites and offline activities may also be incorporated to enhance the learning path.

The following PLATO® courseware was used in this alignment:

- **PLATO® Math Expeditions G**
- **PLATO® Math Expeditions H**
- **PLATO® Math Expeditions I**
- **PLATO® Math Fundamentals**
- **PLATO® Math Problem Solving**
- **PLATO® Applied Math**
- **PLATO® Algebra 1, Part 1**
- **PLATO® Geometry and Measurement 1**
- **PLATO® Data Skills**

PLATO Learning, Inc. looks forward to supporting your initiatives in providing successful educational programs using PLATO® computer-based lessons.

Grade 6
Number Sense

1.0 Students compare and order positive and negative fractions, decimals, and mixed numbers. Students solve problems involving fractions, ratios, proportions, and percentages.

1.1 Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.

PLATO Math Expeditions G
- ·Fractions G - Fractions
  - ·Compare & order fractions

PLATO Math Expeditions H
- ·Numeration H - Compare
  - ·Compare numbers & decimals
- ·Numeration H - Order
  - ·Order numbers & decimals
- ·Fractions H - Fractions
  - ·Compare & order fractions

PLATO Math Expeditions I
- ·Numeration I - Compare
  - ·Compare whole numbers & decimals
  - ·Compare rational numbers
- ·Numeration I - Order
  - ·Order numbers & decimals
  - ·Order rational numbers
- ·Fractions I - Fractions
  - ·Compare & order fractions

PLATO Math Fundamentals
- ·Fractions
  - ·Equivalent Fractions
  - ·Comparing Fractions
  - ·Basic Terms Review
  - ·Adding and Subtracting Fractions 1
- ·Decimals
  - ·Decimal Fractions 2
  - ·Decimals Review

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·The Additive Inverse of Integers
- ·Graphing Basics
  - ·Coordinate Plane

1.2 Interpret and use ratios in different contexts (e.g., batting averages, miles per hour) to show the relative sizes of two quantities, using appropriate notations (a/b, a to b, a:b).

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Write ratios

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Ratio Concepts
  - ·Ratio/Proportion/Percent Review

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Scaling and Proportion, Part 1

1.3 Use proportions to solve problems. Use cross-multiplication as a method for solving such problems, understanding it as the multiplication of both sides of an equation by a multiplicative inverse.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve rates & proportions

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Proportion Concepts
  - ·Ratio/Proportion/Percent Review
  - ·Problem Solving 6

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Special Topics
  - ·Scaling and Proportion, Part 2

1.4 Calculate given percentages of quantities and solve problems involving discounts at sales, interest earned, and tips.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve percents

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%
  - ·Find numbers from percents

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%
  - ·Solve percents
  - ·Find numbers from percents

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business

PLATO Applied Math
- ·Applied Math
  - ·Math Conversions
  - ·Using Base, Rate, and Proportion

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Solving Problems with Percents

2.0 Students calculate and solve problems involving addition, subtraction, multiplication, and division.

2.1 Solve problems involving addition, subtraction, multiplication, and division of positive fractions and explain why a particular operation was used for a given situation.

PLATO Math Expeditions G
- ·Fractions G - Fractions
  - ·Add & subtract different fractions
  - ·Add mixed numbers
  - ·Subtract mixed numbers
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions

PLATO Math Expeditions H
- ·Fractions H - Fractions
  - ·Add & subtract different fractions
  - ·Add mixed numbers
  - ·Subtract mixed numbers
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions

PLATO Math Expeditions I
- ·Fractions I - Fractions
  - ·Add & subtract different fractions
  - ·Add mixed numbers
  - ·Subtract mixed numbers
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions

PLATO Math Fundamentals
- ·Subtraction
  - ·Problem Solving 1
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Adding and Subtracting Fractions 1
  - ·Adding and Subtracting Fractions 2
  - ·Adding Mixed Numbers
  - ·Subtracting Mixed Numbers 1
  - ·Subtracting Mixed Numbers 2
  - ·Adding and Subtracting Fractions Review
  - ·Multiplying Fractions
  - ·Dividing Fractions 1
  - ·Dividing Fractions 2
  - ·Multiplying and Dividing Mixed Numbers 1
  - ·Multiplying and Dividing Mixed Numbers 2
  - ·Multiplication and Division Review
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Multiplying Common Fractions
  - ·Adding and Subtracting Fractions
  - ·Adding and Subtracting Mixed Numbers
  - ·Dividing Fractions
  - ·Multiplying and Dividing Mixed Numbers
  - ·Using Basic Number Ideas
- ·Math Sentences
  - ·Using Linear Equations to Solve Problems
  - ·Using Quadratic Equations to Solve Problems
- ·Graphing Basics
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations
- ·Special Topics
  - ·Solving Problems with Percents
  - ·Solving Problems with Mean, Median, and Mode
  - ·Solving Problems with Probability

2.2 Explain the meaning of multiplication and division of positive fractions and perform the calculations (e.g., 5/8 divided 15/16 = 5/8 x 16/15 = 2/3).

PLATO Math Expeditions G
- ·Fractions G - Fractions
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions

PLATO Math Expeditions H
- ·Fractions H - Fractions
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions

PLATO Math Expeditions I
- ·Fractions I - Fractions
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions

PLATO Math Fundamentals
- ·Fractions
  - ·Multiplying Fractions
  - ·Dividing Fractions 1
  - ·Dividing Fractions 2
  - ·Multiplying and Dividing Mixed Numbers 2
  - ·Multiplication and Division Review

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Multiplying Common Fractions
  - ·Dividing Fractions

2.3 Solve addition, subtraction, multiplication, and division problems, including those arising in concrete situations, that use positive and negative integers and combinations of these operations.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Adding Integers
  - ·Subtracting Integers
  - ·Multiplying Integers
  - ·Dividing Integers

2.4 Determine the least common multiple and greatest common divisor of whole numbers; use them to solve problems with fractions (e.g., to find a common denominator to add two fractions or to find the reduced form for a fraction).

PLATO Math Expeditions G
- ·Fractions G - Fractions
  - ·Add & subtract different fractions

PLATO Math Expeditions H
- ·Fractions H - Fractions

PLATO Math Expeditions I
- ·Fractions I - Fractions
  - ·Compare & order fractions
  - ·Add & subtract different fractions

PLATO Math Fundamentals
- ·Fractions
  - ·Equivalent Fractions
  - ·Multiples and Common Denominators
  - ·Improper Fractions and Mixed Numbers
  - ·Basic Terms Review
  - ·Adding and Subtracting Fractions 2
  - ·Subtracting Mixed Numbers 2
  - ·Adding and Subtracting Fractions Review
  - ·Problem Solving 4
- ·Ratio/Proportion/Percent
  - ·Ratio Concepts
  - ·Ratio/Proportion/Percent Review

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Multiplying Common Fractions
  - ·Adding and Subtracting Fractions
  - ·Adding and Subtracting Mixed Numbers

Algebra and Functions

1.0 Students write verbal expressions and sentences as algebraic expressions and equations; they evaluate algebraic expressions, solve simple linear equations, and graph and interpret their results.

1.1 Write and solve one-step linear equations in one variable.

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%
  - ·Find numbers from percents

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%
- ·Math Sentences
- ·Linear Equations in 1 Variable: Solving by Inspection
- ·Linear Equations in 1 Variable: Isolating the Variable
- ·Equations and Formulas
  - ·Literal Equations

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas

1.2 Write and evaluate an algebraic expression for a given situation, using up to three variables.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Math Sentences
  - ·Expressions in 1 Variable
- ·Expressions in 2 or More Variables
- ·Determining the Truth Value of a Statement
- ·Using Linear Equations to Solve Problems

1.3 Apply algebraic order of operations and the commutative, associative, and distributive properties to evaluate expressions; and justify each step in the process.

PLATO Math Fundamentals
- ·Addition
  - ·Addition Properties
- ·Multiplication
  - ·Multiplication Properties 1
- ·Expressions in 2 or More Variables
- ·Determining the Truth Value of a Statement
- ·Multiplication Properties 2

PLATO Algebra 1, Part 1
- ·Math Sentences
  - ·Order of Operations
  - ·Expressions in 1 Variable

1.4 Solve problems manually by using correct order of operations or by using a scientific calculator.

PLATO Algebra 1, Part 1
- ·Math Sentences
  - ·Order of Operations
  - ·Expressions in 2 or More Variables

2.0 Students analyze and use tables, graphs and rules to solve problems involving rates and proportions.

2.1 Convert one unit of measurement to another (e.g., from feet to miles, from centimeters to inches).

PLATO Applied Math
- ·Applied Math
  - ·Converting Linear Measurements
  - ·Converting Weight Measurements
  - ·Converting Volume Measurements

2.2 Demonstrate an understanding that rate is a measure of one quantity per unit value of another quantity.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve rates & proportions

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

2.3 Solve problems involving rates, average speed, distance, and time.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve rates & proportions

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Special Topics
  - ·Scaling and Proportion, Part 2 (Alg. 1.1)
- ·Introduction to Functions
  - ·Linear Patterns

3.0 Students investigate geometric patterns and describe them algebraically.

3.1 Use variables in expressions describing geometric quantities(e.g., P = 2w + 2l, A = 1/2 bh, C = pd--the formulas for the perimeter of a rectangle, the area of a triangle, and the circumference of a circle, respectively).

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the perimeter
  - ·Find the circumference
  - ·Find the area

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Find the perimeter
  - ·Find the circumference
  - ·Find the area

PLATO Math Expeditions I
- ·Geometry I - Geometry
  - ·Find the perimeter
  - ·Find the circumference
  - ·Find the area

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Area Measurement
  - ·Measurement Review
  - ·Problem Solving 7

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Math Sentences
  - ·Expressions in 1 Variable
  - ·Expressions in 2 or More Variables
  - ·Using Linear Equations to Solve Problems
- ·Equations and Formulas
  - ·Literal Equations
  - ·Adapting and Using Formulas

3.2 Express in symbolic form simple relationships arising from geometry.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the perimeter
  - ·Find the area

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Identify geometric shapes
  - ·Find the perimeter
  - ·Find the area
  - ·Find the volume

PLATO Math Expeditions I
- ·Geometry I - Geometry
  - ·Identify geometric shapes
  - ·Find the perimeter
  - ·Find the area
  - ·Find the volume

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Area Measurement
  - ·Volume and Capacity Measurement
  - ·Measurement Review
  - ·Problem Solving 7

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas (Alg 1.1
- ·Math Sentences
  - ·Expressions in 1 Variable
  - ·Expressions in 2 or More Variables
  - ·Using Linear Equations to Solve Problems
- ·Equations and Formulas
  - ·Literal Equations
  - ·Adapting and Using Formulas
- ·Introduction to Functions
  - ·Patterns and Sequences
  - ·Describing Functions with Equations, Tables, and Graphs

Measurement and Geometry

1.0 Students deepen their understanding of the measurement of plane and solid shapes and use this understanding to solve problems.

1.1 Understand the concept of a constant such as p; know the formulas for the circumference and area of a circle.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the circumference

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%
  - ·Find numbers from percents
- ·Geometry H - Geometry
  - ·Find the circumference
  - ·Find the area

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%
  - ·Find numbers from percents
- ·Geometry I - Geometry
  - ·Find the circumference
  - ·Find the area

PLATO Algebra 1, Part 1
- ·Math Sentences
  - ·Expressions in 1 Variable

1.2 Know common estimates of pi (3.14; 22/7) and use these values to estimate and calculate the circumference and the area of circles; compare with actual measurements.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the circumference

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Find the area

PLATO Math Expeditions I
- ·Geometry I - Geometry
  - ·Find the circumference
  - ·Find the area

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Area Measurement
  - ·Measurement Review

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway

PLATO Applied Math
- ·Applied Math
  - ·Estimating

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
    - ·Special Topics
    - ·Estimation Basics

1.3 Know and use the formulas for the volume of triangular prisms and cylinders (area of base x height); compare these formulas and explain the similarity between them and the formula for the volume of a rectangular solid.

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Find the volume

PLATO Math Expeditions I
- ·Geometry I – Geometry

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Volume and Capacity Measurement
  - ·Measurement Review

2.0 Students identify and describe the properties of two-dimensional figures.

2.2 Use the properties of complimentary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle.

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Identify geometric shapes

PLATO Math Expeditions I
- ·Geometry I - Geometry

2.3 Draw quadrilaterals and triangles from given information about them (e.g., a quadrilateral having equal sides but no right angles, a right isosceles triangle).

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Identify geometric shapes

PLATO Math Expeditions H
- ·Geometry H - Geometry

PLATO Math Expeditions I
- ·Geometry I - Geometry

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Plane Figures 2
  - ·Basic Figures Review

Statistics, Data Analysis, and Probability

1.0 Students compute and analyze statistical measurement for data sets.

1.1 Compute the range, mean, median, and mode of data sets.

PLATO Math Expeditions G
- ·Probability/Stats G - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Range, median, mode & mean

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Mean, Median, and Mode
  - ·Solving Problems with Mean, Median, and Mode

1.2 Understand how additional data added to data sets may affect these computations of measures of central tendency.

PLATO Math Expeditions G
- ·Probability/Stats G - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Range, median, mode & mean

PLATO Data Skills
- ·Reading Complex Charts and Graphs
  - ·Reading Histograms

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Mean, Median, and Mode
  - ·Solving Problems with Mean, Median, and Mode

1.3 Understand how the inclusion or exclusion of outliers affect measures of central tendency.

PLATO Math Expeditions G
- ·Probability/Stats G - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Range, median, mode & mean

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Mean, Median, and Mode
  - ·Solving Problems with Mean, Median, and Mode

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Range, median, mode & mean

PLATO Data Skills
- ·Reading Complex Charts and Graphs
  - ·Reading Histograms

1.4 Know why a specific measure of central tendency (mean, median, mode) provides the most useful information in a given context.

PLATO Math Expeditions G
- ·Probability/Stats G - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Range, median, mode & mean

PLATO Data Skills
- ·Reading Complex Charts and Graphs
  - ·Reading Histograms

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Mean, Median, and Mode
  - ·Solving Problems with Mean, Median, and Mode

2.0 Students use data samples of a population and describe the characteristics and limitations of the samples.

2.1 Compare different samples of a population with the data from the entire population and identify a situation in which it makes sense to use a sample.

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Probability and Possible Outcomes
  - ·Probability of an Event
  - ·Solving Problems with Probability

2.3 Analyze data displays and explain why the way in which the question was asked might have influenced the results obtained and why the way in which the results were displayed might have influenced the conclusions reached.

PLATO Data Skills
- ·Reading Graphical Data
  - ·Reading Line Graphs
  - ·Reading Bar Graphs

2.4 Identify data that represent sampling errors and explain why the sample (and the display) may be biased.

PLATO Data Skills
- ·Reading Graphical Data
  - ·Reading Line Graphs
  - ·Reading Bar Graphs

2.5 Identify claims based on statistical data and, in simple cases, evaluate the validity of the claims.

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

3.0 Students determine theoretical and experimental probabilities and use these to make predictions about events.

3.1 Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Probability and Possible Outcomes
  - ·Probability of an Event
  - ·Solving Problems with Probability

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

3.2 Use data to estimate the probability of future events (e.g., batting averages or number of accidents per mile driven).

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Probability of an Event
  - ·Solving Problems with Probability

3.3 Represent probabilities as ratios, proportions, dec. between 0 and 1, and % between 0 and 100 and verify that the probabilities computed are reasonable; know that if P is the probability of an event, 1-P is the probability of an event not occurring.

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

3.4 Understand that the probability of either of two disjoint events occurring is the sum of the two individual probabilities and that the probability of one event following another, in independent trials, is the product of the two probabilities.

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Probability of an Event
  - ·Solving Problems with Probability

3.5 Understand the difference between independent and dependent events.

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Find the probability & outcomes

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Find probability & outcomes

Mathematical Reasoning

1.0 Students make decisions about how to approach problems.

1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.

PLATO Math Fundamentals
- ·Subtraction
  - ·Problem Solving 1
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7
- ·Special Topics
  - ·Solving Problems with Percents
  - ·Solving Problems with Mean, Median, and Mode
  - ·Solving Problems with Probability

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Running a Business

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas (Alg 1.1
- ·Math Sentences
  - ·Using Linear Equations to Solve Problems
  - ·Using Quadratic Equations to Solve Problems
- ·Graphing Basics
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations

1.3 Determine when and how to break a problem into simpler parts.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals

2.0 Students use strategies, skills and concepts in finding solutions.

2.1 Use estimation to verify the reasonableness of calculated results.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Running a Business

PLATO Applied Math
- ·Applied Math
  - ·Estimating

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Special Topics
  - ·Estimation Basics
  - ·Estimation by Clustering

2.2 Apply strategies and results from simpler problems to more complex problems.

PLATO Math Fundamentals
- ·Subtraction
  - ·Problem Solving 1
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Math Sentences
  - ·Using Linear Equations to Solve Problems
  - ·Using Quadratic Equations to Solve Problems
- ·Graphing Basics
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations
- ·Special Topics
  - ·Solving Problems with Percents
  - ·Solving Problems with Mean, Median, and Mode
  - ·Solving Problems with Probability

2.3 Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.

PLATO Math Fundamentals
- ·Addition
  - ·Addition Facts 1
  - ·Addition Facts 2
- ·Subtraction
  - ·Subtraction Facts
  - ·Problem Solving 1
- ·Multiplication
  - ·Multiplication Facts 1
  - ·Multiplication Facts 2
  - ·Problem Solving 2
- ·Division
  - ·Division Facts
  - ·Division Skills 6
  - ·Division Review II
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Running a Business

PLATO Applied Math
- ·Applied Math
  - ·Estimating

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Math Sentences
  - ·Determining the Truth Value of a Statement
  - ·Using Linear Equations to Solve Problems
- ·Graphing Basics
  - ·Ordered Pairs as Solutions of Linear Equations
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations
  - ·Adapting and Using Formulas
- ·Special Topics
  - ·Estimation Basics
  - ·Estimation by Clustering
- ·Introduction to Functions
  - ·Functions
  - ·Describing Functions with Equations, Tables, and Graphs
  - ·Linear Patterns

2.4 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.

PLATO Math Fundamentals
- ·Subtraction
  - ·Problem Solving 1
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Data Skills
- ·Constructing Graphs and Charts
  - ·Selecting Graphs and Charts

2.6 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Running a Business

PLATO Applied Math
- ·Applied Math
  - ·Estimating

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Special Topics
  - ·Estimation Basics
  - ·Estimation by Clustering

2.7 Make precise calculations and check the validity of the results from the context of the problem.

PLATO Math Expeditions G

- ·Number Operations G - Addition
  - ·Add numbers up to 3-digits
  - ·Add numbers up to 6-digits
- ·Number Operations G - Subtraction
  - ·Subtract 1, 2, or 3-digit numbers
  - ·Subtract numbers up to 6-digits
  - ·Subtract numbers with zeros
- ·Number Operations G - Multiplication
  - ·Multiply by 1-digit numbers
  - ·Multiply by 2, 3, 4-digit numbers
- ·Number Operations G - Division
  - ·Divide up to 5-digits by 1-digit numbers
  - ·Divide 3, 4, or 5-digits by 1-digit numbers
  - ·2-digits, 3-digits divided by 2-digit, 1-digit quotient
  - ·Divide by 2-digits, 2-digit quotient
  - ·3, 4, 5-digits divided by 2-digits
  - ·4, 5, 6-digits divided by 3-digits
- ·Fractions G - Fractions
  - ·Add & subtract different fractions
  - ·Add mixed numbers
  - ·Subtract mixed numbers
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions
- ·Decimals G - Decimals
  - ·Add and subtract decimals
  - ·Multiply decimals
  - ·Divide decimals

PLATO Math Expeditions H

- ·Number Operations H - Addition
  - ·Add numbers up to 6-digits
  - ·Add decimals
- ·Number Operations H - Subtraction
  - ·Subtract numbers up to 6-digits
  - ·Subtract decimals
- ·Number Operations H - Multiplication
  - ·Multiply by 1-digit numbers
  - ·Multiply by 2, 3, 4-digit numbers
  - ·Multiply decimals
- ·Number Operations H - Division
  - ·Divide whole numbers
  - ·Divide a decimal by a whole number
  - ·Divide by decimals
- ·Fractions H - Fractions
  - ·Add & subtract different fractions
  - ·Add mixed numbers
  - ·Subtract mixed numbers
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions
- ·Decimals H - Decimals
  - ·Add & subtract decimals
  - ·Multiply decimals
  - ·Divide decimals

PLATO Math Expeditions I

- ·Number Operations I - Addition
  - ·Add numbers up to 6-digits
  - ·Add decimals
- ·Number Operations I - Subtraction
  - ·Subtract numbers up to 6-digits
  - ·Subtract decimals
- ·Number Operations I - Multiplication
  - ·Multiply by 1-digit numbers
  - ·Multiply by 2, 3, 4-digit numbers
  - ·Multiply decimals
- ·Number Operations I - Division
  - ·Divide whole numbers
  - ·Divide a decimal by whole number
  - ·Divide by decimals
- ·Fractions I - Fractions
  - ·Add & subtract different fractions
  - ·Add mixed numbers
  - ·Subtract mixed numbers
  - ·Multiply fractions & mixed numbers
  - ·Divide fractions
- ·Decimals I - Decimals
  - ·Add & subtract decimals
  - ·Multiply decimals
  - ·Divide decimals

PLATO Math Fundamentals

- ·Addition
  - ·Addition Skills 1
  - ·Addition Skills 2
  - ·Addition Skills 3
  - ·Addition Skills 4
  - ·Addition Review
- ·Subtraction
  - ·Subtraction Skills 1
  - ·Subtraction Skills 2
  - ·Subtraction Skills 3
  - ·Subtraction Skills 4
  - ·Subtraction Review
  - ·Problem Solving 1
- ·Multiplication
  - ·Multiplication Skills 1
  - ·Multiplication Skills 2
  - ·Multiplication Skills 3
  - ·Multiplication Skills 4
  - ·Multiplication Review I
  - ·Multiplication Skills 5
  - ·Multiplication Skills 7
  - ·Multiplication Review II
  - ·Problem Solving 2
- ·Division
  - ·Division Skills 1
  - ·Division Skills 2
  - ·Division Skills 3
  - ·Division Review I
  - ·Division Skills 4
  - ·Division Skills 5

- ·Division Skills 6
- ·Division Skills 7
- ·Division Skills 8
- ·Division Review II
- ·Problem Solving 3
- ·Fractions
  - ·Adding and Subtracting Fractions 1
  - ·Adding and Subtracting Fractions 2
  - ·Adding Mixed Numbers
  - ·Subtracting Mixed Numbers 1
  - ·Subtracting Mixed Numbers 2
  - ·Adding and Subtracting Fractions Review
  - ·Multiplying Fractions
  - ·Dividing Fractions 1
  - ·Dividing Fractions 2
  - ·Multiplying and Dividing Mixed Numbers 1
  - ·Multiplying and Dividing Mixed Numbers 2
  - ·Multiplication and Division Review
  - ·Problem Solving 4
- ·Decimals
  - ·Adding and Subtracting Decimals
  - ·Multiplying Decimals
  - ·Dividing Decimals
  - ·Decimals Review
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving

- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business

PLATO Algebra 1, Part 1

- ·Basic Number Ideas
  - ·Multiplying Common Fractions
  - ·Adding and Subtracting Fractions
  - ·Adding and Subtracting Mixed Numbers
  - ·Dividing Fractions
  - ·Multiplying and Dividing Mixed Numbers
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Math Sentences
  - ·Using Linear Equations to Solve Problems
  - ·Using Quadratic Equations to Solve Problems
- ·Graphing Basics
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations
- ·Special Topics
  - ·Solving Problems with Percents
  - ·Solving Problems with Mean, Median, and Mode
  - ·Solving Problems with Probability

3.0 Students move beyond a particular problem by generalizing to other situations.

3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

PLATO Math Problem Solving

- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Algebra 1, Part 1

- ·Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals

3.3 Develop generalizations of the results obtained and the strategies used and apply them in new problem situations.

PLATO Algebra 1, Part 1

- ·Basic Number Ideas
  - ·Using Basic Number Ideas

Grade 7
Number Sense

1.0 Students know the properties of, and compute with, rational numbers expressed in a variety of forms.

1.1 Read, write, and compare rational numbers in scientific notation (positive and negative powers of 10) with approximate numbers using scientific notation.

PLATO Math Expeditions I
- ·Numeration I - Place Value
  - ·Write in scientific notation

1.2 Add, subtract, multiply, and divide rational numbers (integers, fractions, and terminating decimals) and take positive rational numbers to whole-number powers.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Exponents: Exponential Form
  - ·Exponents: Expanded Form

1.3 Convert fractions to decimals and percents and use these representations in estimation, computation, and applications.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Decimals & fractions as %

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Math Fundamentals
- ·Decimals
  - ·Decimal Fractions 1
  - ·Decimal Fractions 2
  - ·Decimals Review
- ·Ratio/Proportion/Percent
  - ·Percent Concepts 1
  - ·Percent Concepts 2
  - ·Ratio/Proportion/Percent Review
- ·Converting a Number Greater than 1 to a Percent

PLATO Applied Math
- ·Applied Math
  - ·Math Conversions

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Mental Math with Fractions and Percents
- ·Special Topics
  - ·Converting Percents Less than 1% to Decimals
  - ·Converting a Decimal to a Fraction of a Percent
  - ·Finding the Amount with Percents Less than 1%
  - ·Converting Percents Greater than 100% to Decimals

1.4 Differentiate between rational and irrational numbers.

PLATO Math Expeditions I
- ·Numeration I - Compare
  - ·Compare rational numbers
- ·Numeration I - Order
  - ·Order rational numbers

1.5 Know that every rational number is either a terminating or repeating decimal and be able to convert terminating decimals into reduced fractions.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Decimals & fractions as %

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Numeration I - Compare
  - ·Compare rational numbers
- ·Numeration I - Order
  - ·Order rational numbers
- ·Ratio/Proportion/% I - Ratio/Proportion/%
  - ·Decimals & fractions as %

PLATO Math Fundamentals
- ·Decimals
  - ·Decimal Fractions 1
  - ·Decimal Fractions 2
  - ·Decimals Review
- ·Ratio/Proportion/Percent
  - ·Percent Concepts 1
  - ·Percent Concepts 2
  - ·Ratio/Proportion/Percent Review

PLATO Applied Math
- ·Applied Math
  - ·Math Conversions

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Mental Math with Fractions and Percents
- ·Special Topics
  - ·Converting Percents Less than 1% to Decimals
  - ·Converting a Decimal to a Fraction of a Percent
  - ·Finding the Amount with Percents Less than 1%
  - ·Converting Percents Greater than 100% to Decimals (Alg 1.1
  - ·Converting a Number Greater than 1 to a Percent

1.6 Calculate the percentage of increases and decreases of a quantity.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Find percents
  - ·Solve percents

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%
  - ·Find percents
  - ·Solve percents

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%
  - ·Find percents
  - ·Solve percents

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Percent Concepts 2
  - ·Ratio/Proportion/Percent Review
  - ·Problem Solving 6

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats
- ·Probability and Statistics
  - ·Math Problem Solving: Statistics for Quality

PLATO Applied Math
- ·Applied Math
  - ·Math Conversions
  - ·Using Base, Rate, and Proportion

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Mental Math with Fractions and Percents
- ·Special Topics
  - ·Finding the Amount with Percents Less than 1%
  - ·Solving Problems with Percents

1.7 Solve problems that involve discounts, markups, commissions, and profit and compute simple and compound interest.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve percents

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%
  - ·Find numbers from percents

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%
  - ·Solve percents
  - ·Find numbers from percents

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats
- ·Probability and Statistics
  - ·Math Problem Solving: Statistics for Quality

PLATO Applied Math
- ·Applied Math
  - ·Math Conversions
  - ·Using Base, Rate, and Proportion

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Solving Problems with Percents

2.0 Students use exponents, powers, and roots and use exponents in working with fractions.

2.2 Add and subtract fractions by using factoring to find common denominators.

PLATO Math Expeditions G
- ·Fractions G - Fractions
  - ·Add & subtract different fractions

PLATO Math Expeditions H
- ·Fractions H - Fractions

PLATO Math Expeditions I
- ·Fractions I - Fractions

PLATO Math Fundamentals
- ·Fractions
  - ·Multiples and Common Denominators
  - ·Adding and Subtracting Fractions 2
  - ·Adding and Subtracting Fractions Review

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Multiplying Common Fractions
  - ·Adding and Subtracting Fractions

2.3 Multiply, divide, and simplify rational numbers by using exponent rules.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Exponents: Product Rule
  - ·Exponents: Power Rule
  - ·Multiplying Common Fractions
  - ·Adding and Subtracting Fractions
  - ·Adding and Subtracting Mixed Numbers
  - ·Dividing Fractions
  - ·Multiplying and Dividing Mixed Numbers
- ·Math Sentences
  - ·Multiplying Monomials
  - ·Dividing Monomials

2.4 Use the inverse relationship between raising to a power and extracting the root of a perfect square integers; for an integers that is not square, determine without a calculator the two integers between which its square root lies and explain why.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Square Roots of Imperfect Squares

Algebra and Functions

1.0 Students express quantitative relationships using algebraic terminology, expressions, equations, inequalities and graphs.

1.1 Use variables and appropriate operations to write an expression, an equation, an inequality, or a system of equations or inequalities that represent a verbal description (e.g., three less than a number, half as large as area A).

PLATO Math Fundamentals
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Math Sentences
  - ·Expressions in 1 Variable
  - ·Expressions in 2 or More Variables
  - ·Using Linear Equations to Solve Problems
- ·Equations and Formulas
  - ·Literal Equations

1.2 Use the correct order of operations to evaluate algebraic expressions such as 3(2x + 5)2.

PLATO Algebra 1, Part 1
- ·Math Sentences
  - ·Order of Operations
  - ·Expressions in 2 or More Variables

1.3 Simplify numerical expressions by applying properties of rational numbers (e.g., identity, inverse, distributive, associative, commutative) and justify the process used.

PLATO Math Expeditions G
- ·Number Operations G - Subtraction
  - ·Subtract numbers with zeros

PLATO Math Fundamentals
- ·Addition
  - ·Addition Properties
- ·Multiplication
  - ·Multiplication Properties 1
  - ·Multiplication Properties 2
- ·Division
  - ·Division Facts

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·The Additive Inverse of Integers
- ·Math Sentences
  - ·Adding Monomials
  - ·Subtracting Monomials
  - ·Adding Binomials and Monomials
  - ·Subtracting Binomials and Monomials
  - ·Linear Equations in 1 Variable: Isolating the Variable

1.4 Use algebraic terminology (e.g., variable, equation, term, coefficient, inequality, expression, constant) correctly.

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%
  - ·Find numbers from percents

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Math Sentences
  - ·Expressions in 1 Variable

1.5 Represent quantitative relationships graphically and interpret the meaning of a specific part of a graph in terms of the situation represented by the graph.

PLATO Math Problem Solving
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats

PLATO Algebra 1, Part 1
- ·Introduction to Functions
  - ·Describing Functions with Equations, Tables, and Graphs
  - ·Linear Patterns
  - ·Interpreting Graphs to Solve Problems

2.0 Students interpret and evaluate expressions involving integer powers and simple roots.

2.1 Interpret positive whole-number powers as repeated multiplication and negative whole-numbers powers as repeated division or multiplication by the multiplicative inverse. Simplify and evaluate expressions that include exponents.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Exponents: Exponential Form
  - ·Exponents: Expanded Form
  - ·Exponents: Product Rule
  - ·Exponents: Power Rule
- ·Math Sentences
  - ·Adding Monomials
  - ·Subtracting Monomials
  - ·Multiplying Monomials
  - ·Dividing Monomials
  - ·Adding Binomials and Monomials
  - ·Subtracting Binomials and Monomials

2.2 Multiply and divide monomials; extend the process of taking powers and extracting roots to monomials when the latter results in a monomial with an integer exponent.

PLATO Algebra 1, Part 1
- ·Math Sentences
  - ·Multiplying Monomials
  - ·Dividing Monomials

3.0 Students graph and interpret linear and some nonlinear functions.

3.3 Graph linear functions, noting that the vertical change (change in y-value) per unit horizontal change (change in x-value) is always the same and know that the ratio ("rise over run") is called the slope of a graph.

PLATO Algebra 1, Part 1
- ·Graphing Basics
  - ·Graphing Linear Equations in 2 Variables
- ·Introduction to Functions
  - ·Graphs, Slopes, and y-Intercepts
  - ·Equations, Graphs, Slopes, and y-Intercepts

3.4 Plot values of the quantities whose ratios are always the same (e.g., cost to the number of an item, feet to inches, circumference to diameter of a circle). Fit a line to the plot and understand that the slope of the line equals the quantities.

PLATO Algebra 1, Part 1
- ·Introduction to Functions
  - ·Describing Functions with Equations, Tables, and Graphs
  - ·Graphs, Slopes, and y-Intercepts
  - ·Equations, Graphs, Slopes, and y-Intercepts

4.0 Students solve simple linear equations and inequalities over the rational numbers.

4.1 Solve two-step linear equations and inequalities in one variable over the rational numbers, interpret the solution or solutions in the context from which they arose, and verify the reasonableness of the results.

PLATO Algebra 1, Part 1
- ·Math Sentences
  - ·Linear Equations in 1 Variable: Solving by Inspection
  - ·Linear Equations in 1 Variable: Isolating the Variable
  - ·More Difficult Linear Inequalities in 1 Variable

4.2 Solve multi-step problems involving rate, average speed, distance, and time or a direct variation.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve rates & proportions

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Math Fundamentals
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats
- ·Geometry and Measurement
  - ·Math Problem Solving: Planning a Park
  - ·Math Problem Solving: Shelf Space
- ·Probability and Statistics
  - ·Math Problem Solving: The Fund Raiser

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Special Topics
  - ·Scaling and Proportion, Part 2 (Alg. 1.1)
- ·Introduction to Functions
  - ·Linear Patterns

Measurement and Geometry

1.0 Students choose appropriate units of measure and use ratios to convert within and between measurement systems to solve problems.

1.1 Compare weights, capacities, geometric measures, times, and temperatures within and between measurement systems (e.g., miles per hour and feet per second, cubic inches to cubic centimeters).

PLATO Math Problem Solving
- ·Geometry and Measurement
  - ·Math Problem Solving: Shelf Space

PLATO Applied Math
- ·Applied Math
  - ·Converting Linear Measurements
  - ·Converting Weight Measurements
  - ·Converting Volume Measurements

PLATO Geometry and Measurement 1
- ·Measurement
  - ·Metric Measurement

1.2 Construct and read drawings and models made to scale.

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Scaling and Proportion, Part 1
  - ·Scaling and Proportion, Part 2 (Alg. 1.1)

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.

PLATO Math Expeditions G
- ·Ratio/Proportion G - Ratio/Proportion
  - ·Solve rates & proportions

PLATO Math Expeditions H
- ·Ratio/Proportion/% H - Ratio/Proportion/%

PLATO Math Expeditions I
- ·Ratio/Proportion/% I - Ratio/Proportion/%

PLATO Math Problem Solving
- ·Geometry and Measurement
  - ·Math Problem Solving: Shelf Space

2.0 Students compute the perimeter, area and volume of common geometric objects and use the results to find measures of less common objects. They know how perimeter, area, and volume are affected by changes of scale.

2.1 Use formulas routinely for finding the perimeter and areas of basic two-dimensional figures and the surface area and volume of basic 3-D figures, including rectangles, parallelograms, trapezoids, squares, triangles, circles, prisms, etc.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the perimeter
  - ·Find the circumference
  - ·Find the area
  - ·Find the surface area

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Find the perimeter
  - ·Find the circumference
  - ·Find the area
  - ·Find the volume
  - ·Find the surface area

PLATO Math Expeditions I
- ·Geometry I - Geometry
  - ·Find the perimeter
  - ·Find the circumference
  - ·Find the area
  - ·Find the volume
  - ·Find the surface area

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Area Measurement
  - ·Volume and Capacity Measurement
  - ·Measurement Review
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Problem Solving: Planning a Park
- ·Math Problem Solving: Shelf Space

PLATO Geometry and Measurement 1
- ·Geometry
  - ·Circles/Arcs/Circumferences
  - ·Using Geometry
- ·Measurement
  - ·Area, Part 1
  - ·Area, Part 2
  - ·Volume
  - ·Using Measurement

2.2 Estimate and compute the area of more complex or irregular two- and three-dimensional figures by breaking the figures down into more basic geometric objects.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the volume

PLATO Math Expeditions H
- ·Geometry H - Geometry

PLATO Math Expeditions I
- ·Geometry I - Geometry

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Volume and Capacity Measurement
  - ·Measurement Review

PLATO Applied Math
- ·Applied Math
  - ·Converting Volume Measurements

PLATO Geometry and Measurement 1
- ·Measurement
  - ·Volume
  - ·Using Measurement

2.3 Compute the length of the perimeter, the surface area of the faces, and the volume of a three-dimensional object built from rectangular solids.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Find the volume

PLATO Math Expeditions H
- ·Geometry H - Geometry

PLATO Math Expeditions I
- ·Geometry I - Geometry

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Volume and Capacity Measurement
  - ·Measurement Review

PLATO Math Problem Solving
- ·Math Problem Solving: Planning a Park

PLATO Applied Math
- ·Applied Math
  - ·Converting Volume Measurements

PLATO Geometry and Measurement 1
- ·Measurement
  - ·Volume
  - ·Using Measurement

2.4 Relate the changes in measurement with a change of scale to the units used (e.g., square inches, cubic feet) and to conversions between units (1 square foot = 144 square inches or [1 ft2] = [144 in2], 1 cubic inch is app. 16.38 cubic centimeters.

PLATO Applied Math
- ·Applied Math
  - ·Converting Linear Measurements
  - ·Converting Weight Measurements
  - ·Converting Volume Measurements

PLATO Geometry and Measurement 1
- ·Measurement
  - ·Metric Measurement

3.0 Students know the Pythagorean Theorem and deepen their understanding of plane and solid geometric shapes by constructing figures that meet given conditions and by identifying attributes of figures.

3.1 Identify and construct basic elements of geometric figures (e.g., altitudes, midpoints, diagonals, angle bisectors, and perpendicular bisectors; central angles, radii, diameters, and chords of circles) by using a compass and straightedge.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Classify points, lines & angles
  - ·Find the circumference

PLATO Math Expeditions H
- ·Geometry H - Geometry
  - ·Classify points, lines & angles
  - ·Find the circumference

PLATO Math Expeditions I
- ·Geometry I - Geometry
  - ·Classify points, lines & angles
  - ·Find the circumference

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Plane Figures 1
  - ·Plane Figures 2
  - ·Basic Figures Review

PLATO Math Problem Solving
- ·Math Problem Solving: Shelf Space

PLATO Geometry and Measurement 1
- ·Geometry
  - ·Circles/Arcs/Circumferences
  - ·Using Geometry

3.2 Understand and use coordinate graphs to plot simple figures, determine lengths and areas related to them, and determine their image under translations and reflections.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Identify congruent & similar

PLATO Math Expeditions H
- ·Geometry H - Geometry

PLATO Math Expeditions I
- ·Geometry I - Geometry

3.3 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.

PLATO Geometry and Measurement 1
- ·Geometry
  - ·The Pythagorean Theorem 1
  - ·Using Geometry

3.4 Demonstrate an understanding of conditions that indicate two geometrical figures are congruent and what congruence means about the relationships between the sides and angles of the two figures.

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Identify congruent & similar

PLATO Math Expeditions H
- ·Geometry H - Geometry

PLATO Math Expeditions I
- ·Geometry I - Geometry

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Figure Comparison
  - ·Basic Figures Review

3.6 Identify elements of three-dimensional geometric objects (e.g., diagonals of rectangular solids) and describe how two or more objects are related in space (e.g., skew lines, the possible ways three planes might intersect).

PLATO Math Expeditions G
- ·Geometry G - Geometry
  - ·Classify points, lines & angles

PLATO Math Expeditions H
- ·Geometry H - Geometry

PLATO Math Expeditions I
- ·Geometry I – Geometry

PLATO Math Fundamentals
- ·Geometry and Measurement
  - ·Plane Figures 1
  - ·Common 3-Dimensional Figures
  - ·Basic Figures Review

PLATO Math Problem Solving
- ·Math Problem Solving: Planning a Park

PLATO Geometry and Measurement 1
- ·Geometry
  - ·Special Angles, Part 2

Statistics, Data Analysis, and Probability

1.0 Students collect, organize, and represent data sets that have one or more variables and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program.

1.1 Know various forms of display for data sets, including a stem-and-leaf plot or box-and-whisker plot; use the forms to display a single set of data or to compare two sets of data.

PLATO Math Expeditions G
- ·Graphs G - Graphs
  - ·Data from graphs

PLATO Math Expeditions H
- ·Graphs H - Graphs
  - ·Data from graphs

PLATO Math Expeditions I
- ·Graphs I - Graphs
  - ·Data from graphs

PLATO Math Problem Solving
- ·Data Skills
  - ·Math Problem Solving: Planning a Playground
  - ·Math Problem Solving: Growing Lilies
- ·Probability and Statistics
  - ·Math Problem Solving: Making the Grade
  - ·Math Problem Solving: Statistics for Quality

PLATO Data Skills
- ·Reading Graphical Data
  - ·Reading Pie Charts
  - ·Introduction to Line Graphs
  - ·Reading Line Graphs
  - ·Introduction to Bar Graphs
  - ·Reading Bar Graphs
  - ·Introduction to Data in Tables
  - ·Reading Data in Tables
- ·Computing Graphical Data
  - ·Graphing and Charting
  - ·Tables
  - ·Using Pictographs
  - ·Using Line Graphs
  - ·Using Bar Graphs
  - ·Using Pie Charts
- ·Reading Complex Charts and Graphs
  - ·Reading Complex Tables
- ·Constructing Graphs and Charts
  - ·Constructing Line Graphs
  - ·Constructing Pie Charts
  - ·Constructing Bar Graphs
  - ·Constructing Histograms
  - ·Selecting Graphs and Charts

PLATO Algebra 1, Part 1
- ·Introduction to Functions
  - ·Interpreting Graphs to Solve Problems

1.3 Understand the meaning of, and be able to compute, the minimum, the lower quartile, the median, the upper quartile, and the maximum of a data set.

PLATO Math Expeditions G
- ·Probability/Stats G - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Expeditions H
- ·Probability/Stats H - Probability/Stats
  - ·Range, median, mode & mean

PLATO Algebra 1, Part 1
- ·Special Topics
  - ·Mean, Median, and Mode

PLATO Math Expeditions I
- ·Probability/Stats I - Probability/Stats
  - ·Range, median, mode & mean

PLATO Math Problem Solving
- ·Probability and Statistics
  - ·Math Problem Solving: Making the Grade
  - ·Solving Problems with Mean, Median, and Mode

Mathematical Reasoning

1.0 Students make decisions about how to approach problems.

1.1 Analyze problems by identifying relationships, discriminating relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Running a Business
- ·Data Skills
  - ·Math Problem Solving: Planning a Playground
  - ·Math Problem Solving: Growing Lilies
- ·Geometry and Measurement
  - ·Math Problem Solving: Planning a Park
  - ·Math Problem Solving: Shelf Space
- ·Probability and Statistics
  - ·Math Problem Solving: The Fund Raiser
  - ·Math Problem Solving: Making the Grade
  - ·Math Problem Solving: Statistics for Quality

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas

1.3 Determine when and how to break a problem into simpler parts.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals

2.0 Students use strategies, skills, and concepts in finding solutions.

2.1 Use estimation to verify the reasonableness of calculated results.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
- ·Special Topics
  - ·Estimation Basics

2.2 Apply strategies and results from simpler problems to more complex problems.

PLATO Math Fundamentals
- ·Subtraction
  - ·Problem Solving 1
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Math Sentences
  - ·Using Linear Equations to Solve Problems
  - ·Using Quadratic Equations to Solve Problems
- ·Graphing Basics
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations
- ·Special Topics
  - ·Solving Problems with Percents
  - ·Solving Problems with Mean, Median, and Mode
  - ·Solving Problems with Probability

2.3 Estimate unknown quantities graphically and solve for them by using logical reasoning and arithmetic and algebraic techniques.

PLATO Math Fundamentals
- ·Addition
  - ·Addition Facts 1
  - ·Addition Facts 2
- ·Subtraction
  - ·Subtraction Facts
  - ·Problem Solving 1
- ·Multiplication
  - ·Multiplication Facts 1
  - ·Multiplication Facts 2
  - ·Problem Solving 2
- ·Division
  - ·Division Facts
  - ·Division Skills 6
  - ·Division Review II
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Running a Business
- ·Data Skills
  - ·Math Problem Solving: Planning a Playground
  - ·Math Problem Solving: Growing Lilies
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats
- ·Geometry and Measurement
  - ·Math Problem Solving: Planning a Park
  - ·Math Problem Solving: Shelf Space
- ·Probability and Statistics
  - ·Math Problem Solving: The Fund Raiser
  - ·Math Problem Solving: Making the Grade
  - ·Math Problem Solving: Statistics for Quality

PLATO Applied Math
- ·Applied Math
  - ·Estimating

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Math Sentences
  - ·Using Linear Equations to Solve Problems
- ·Graphing Basics
  - ·Solving Problems with Systems of Linear Equations
- ·Equations and Formulas
  - ·Literal Equations
  - ·Adapting and Using Formulas
- ·Special Topics
  - ·Estimation Basics
  - ·Estimation by Clustering

2.5 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.

PLATO Math Fundamentals
- ·Subtraction
  - ·Problem Solving 1
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business
- ·Data Skills
  - ·Math Problem Solving: Planning a Playground
  - ·Math Problem Solving: Growing Lilies
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats
- ·Geometry and Measurement
  - ·Math Problem Solving: Planning a Park
  - ·Math Problem Solving: Shelf Space
- ·Probability and Statistics
  - ·Math Problem Solving: The Fund Raiser
  - ·Math Problem Solving: Making the Grade
  - ·Math Problem Solving: Statistics for Quality

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas

2.7 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Running a Business
- ·Data Skills
  - ·Math Problem Solving: Planning a Playground
  - ·Math Problem Solving: Growing Lilies
- ·Advanced Algebra
  - ·Math Problem Solving: Building Boats
- ·Geometry and Measurement
  - ·Math Problem Solving: Planning a Park
  - ·Math Problem Solving: Shelf Space
- ·Probability and Statistics
  - ·Math Problem Solving: The Fund Raiser
  - ·Math Problem Solving: Making the Grade
  - ·Math Problem Solving: Statistics for Quality

PLATO Applied Math
- ·Applied Math
  - ·Estimating

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals
- ·Special Topics
  - ·Estimation Basics
  - ·Estimation by Clustering

2.8 Make precise calculations and check the validity of the results from the context of the problem.

PLATO Math Fundamentals
- ·Multiplication
  - ·Problem Solving 2
- ·Division
  - ·Problem Solving 3
- ·Fractions
  - ·Problem Solving 4
- ·Decimals
  - ·Problem Solving 5
- ·Ratio/Proportion/Percent
  - ·Problem Solving 6
- ·Geometry and Measurement
  - ·Problem Solving 7

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping
  - ·Math Problem Solving: Car Costs
  - ·Math Problem Solving: Running a Business

3.0 Students determine a solution is complete and move beyond a particular problem by generalizing to other situations.

3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.

PLATO Math Problem Solving
- ·Math Fundamentals
  - ·Math Problem Solving: Building a Highway
  - ·Math Problem Solving: Smart Shopping

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas
  - ·Mental Math with Whole Numbers and Decimals

3.3 Develop generalizations of the results obtained and the strategies used and apply them to new problem situations.

PLATO Algebra 1, Part 1
- ·Basic Number Ideas
  - ·Using Basic Number Ideas