

# Mathematics 300

## Unit 1: WHOLE NUMBERS

Lesson Title	Objective
Patterns: Digits and Number Words	Review reading and writing numbers Review number order Review reading and writing number words
Place Value	Use zero as a placeholder Review place value for ones and tens
Single-Digit Addition	Practice addition facts
Single-Digit Subtraction	Practice subtraction facts
Addition Problems	Practice two-digit addition
Subtraction Problems	Practice two-digit subtraction
Numbers on a Number Line	Use mental math to add and subtract
Pattern for Expanded Notation	Practice number order Write numbers in expanded notation form
Adding Multi-digit Numbers	Add numbers in a column Add three-digit numbers
Subtracting 3-Digit Numbers	Subtract three-digit numbers
Measurement	Identify units of measure Measure with a ruler and yardstick
Operation Symbols	Identify operation symbols to solve number sentences
Adding with Carrying	Add two-digit numbers with carrying
Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers
Standard Measurement for Time	Tell time using a face clock
Calendar Time	Measure time on a calendar
Unit Concept Review 1	Review addition and subtraction Review operation symbols
Unit Concept Review 2	Review digits, measurement, and time
Practice: Addition and Subtraction	Review and practice addition with carrying Review and practice subtraction with borrowing

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## Unit 2: NUMBER PATTERNS

Lesson Title	Objective
Family of Facts	Create addition and subtraction fact families
Adding Ones, Tens, and Hundreds	Add two and three-digit numbers with and without carrying
Subtracting Ones, Tens, and Hundreds	Subtract two and three-digit numbers without borrowing
Place Value and Number Words	Identify place value to the hundreds place
Addition with Carrying	Add three-digit numbers with carrying
Skip Counting and Number Words	Practice reading and writing number words Add numbers using mental math Practice skip counting
Skip Counting and Addition with Carrying	Find odd and even number patterns Practice addition with carrying
Fractions	Identify fractions from pictures Read and write fractions
Subtracting with Borrowing	Practice subtraction with borrowing
Shapes	Identify flat and solid shapes
Money	Find the total value of sets of coins Count coins
Review: Borrowing	Review and practice subtraction with borrowing
Addition: Checking Answers	Check addition problems
Subtraction: Checking Answers	Check subtraction problems
Review: Number Order and Place Value	Review expanded notation Review number order Review place value
Review: Addition and Subtraction Facts	Review and practice addition and subtraction facts

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## Unit 3: WHOLE NUMBERS AND FRACTIONS

Lesson Title	Objective
Fact Families, Mental Math, and Addition	Practice addition Create addition and subtraction fact families
Column Addition	Add a column of three numbers, with and without carrying
Addition: With and Without Carrying	Practice addition with and without carrying
Measurements: Weight and Volume	Identify standard units of measure for weight Identify standard units of measure for height
Fact Family, Place Value, and Number Order	Review place value  Review number order Review fact families
Checking Addition Problems	Review and practice checking addition
More Checking Addition Problems	Practice checking addition problems with and without carrying
Subtraction with Borrowing	Subtract with regrouping from the tens and hundreds place
Number Sentences and Symbols	Use math symbols to solve number sentences
Subtraction with Borrowing and Checking	Practice checking subtraction problems with and without borrowing
Fractions	Identify and write fractions
Fractions - Continued	Identify and write fractions
Addition Practice	Practice addition with carrying
Time: AM and PM	Identify a.m. and p.m. when telling time
Review: Addition, Subtraction, and Money	Review checking addition and subtraction Review fact families Review counting and writing money
Review: Story Problems, Lines, Shapes, and Measurement	Review units of measurement for time and distance  Review story problems Review lines and shapes

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## Unit 4: PLACE VALUE

Lesson Title	Objective
Numbers to Thousands Place	Identify place value to the thousands place
Addition and Skip Counting	Practice addition with sums to the thousands place Review skip counting
Rounding and Estimation	Practice rounding to the tens place Use rounding to estimate answers
Subtraction with Borrowing	Practice subtraction with borrowing
Measurement	Identify standard units of measurement for weight, volume, time, and distance
Number Words and Place Value	Practice writing number words Create fact families Review place value to the thousands place
Number Patterns	Practice number order Identify number patterns
Addition and Subtraction: Horizontal Form	Add and subtract problems written horizontally
Adding and Subtracting Fractions	Add and subtract fractions with like denominators
Roman Numerals	Identify numbers using the Roman numeral system
Review: Subtraction with Borrowing	Practice subtraction with borrowing
Review: Fractions	Practice reading and writing fractions Identify fractions
Review: Word Problems and Money	Practice solving word problems Practice counting coins

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## Unit 5: MEASUREMENT, SHAPES, AND REVIEW

Lesson Title	Objective
Operation Symbols and Number Sense	Use operation symbols to write number sentences Review place value and number sense
Multi-Digit Addition And Subtraction	Practice addition with carrying Practice subtraction with borrowing
Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers in fractions Identify cardinal and ordinal numbers in whole numbers
Number Patterns Using Place Value	Identify place value to the thousands place Identify number patterns
Measuring Temperature	Identify boiling point of liquid Identify freezing point of liquid Find information on a graph
Operation Symbols	Use operation signs to solve number sentences
Shapes and Symmetry	Identify plane and solid shapes Identify lines of symmetry
Rounding and Estimating	Use rounding to find estimates
Finding Perimeter	Find the perimeter of shapes
Multi-Digit Addition and Subtraction	Solve problems using mental math Add and subtract vertically and horizontally
Odd And Even Numbers	Identify odd and even numbers
Review: Checking Addition	Practice checking addition problems
Review: Checking Subtraction	Practice checking subtraction problems
Review: Roman Numerals and Fractions	Identify and convert Roman numerals
Review: Multiple Concepts	Review the following concepts: Addition and subtraction facts Rounding and estimation Number patterns and number order Measuring money and time Roman numerals
Review: Story Problems	Practice solving word problems

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## Unit 6: MULTIPLICATION, ADDITION, AND SUBTRACTION

Lesson Title	Objective
Multi-Digit Addition	Practice multi-digit addition with and without carrying
Skip Counting and Multiplication	Multiply using skip counting
Review: Telling Time	Practice telling time
Review: Subtraction	Practice subtraction with and without borrowing
Perimeter and Area	Find the perimeter and area of shapes
Review: Fractions	Add and subtract fractions
Addition and Equivalent Fractions	Identify equivalent fractions using pictures Practice addition
Money Computation and Roman Numerals	Review Roman numerals Add and subtract amounts of money
Multiplication	Memorize multiplication facts for 1's, 2's, and 3's Use skip counting to multiply
Lines, Angles, and Temperature	Identify lines and angles Identify endpoints and line segments Practice reading a thermometer
Review: Addition and Subtraction	Review and practice addition and subtraction
Story Problems	Practice solving story problems
Multiple Concept Review	Place value Fractions Even and odd numbers Shapes Roman numerals Review the following concepts:
Review: Calendar	Review units of time on a calendar Find information on a calendar

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## Unit 7: OPERATIONS, LIKELIHOOD, AND PROBABILITY

Lesson Title	Objective
Review: Place Value	Review place value of multi-digit numbers
Review: Subtraction with Borrowing	Review and practice subtraction with borrowing
Multiplication Facts (1)	Practice multiplication facts for 1's, 2's, 3's, 5's, and 6's
Measurement	Practice using standard units of measure Find perimeter and area
Practicing Subtraction with Borrowing	Practice subtraction, including regrouping with zeros
Mixed Numbers	Read and write mixed numbers Add and subtract mixed numbers Identify mixed numbers
Review: Expanded Notation and Roman Numerals	Write numbers in their expanded form  Review Roman numerals
Probability and Likelihood	Predict probability and likelihood
Math Facts	Solve number sentences Practice math facts
Symmetry	Identify the line of symmetry in figures
Review: Money	Solve problems using money
Multiplication Facts (2)	Learn the multiplication facts for 7's and 8's Review and memorize multiplication facts for 2's and 5's
Multiple Concept Review	Review the following concepts: Graphs Lines and angles Measurement Fact families Place value Fractions and multiplication Story problems

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## Unit 8: MEASUREMENT, FRACTIONS, AND DECIMALS

Lesson Title	Objective
Shapes, Measurement, and Addition	Convert and add measurements Identify flat and solid shapes Practice checking addition and subtraction
Time and Measurement	Solve problems using a calendar Practice mental math Review number order
Fractions, Odd and Even Number Patterns	Identify even and odd number patterns Review fraction words
Decimals	Read and write decimals
Money Problems	Review and practice estimation and rounding Solve story problems using money
Fractions, Place Value, and Measurement	Measure to the $\frac{1}{4}$ inch using a ruler Practice place value Add mixed numbers Write numbers in expanded form
Directions	Locate points using directions on a grid Identify north, south, east, and west on a grid
Multiplication Facts	Practice memorizing multiplication facts for 8's and 9's Practice memorizing multiplication facts for 3's and 4's
Multiple Concept Practice	Review Roman numerals Review multiplication facts Review number relation symbols Review fractions
Review: Addition With Checking	Practice addition with checking
Word Problems	Solve word problems
Using Graphs	Find data using bar and line graphs Find data using circle and picture graphs Practice finding perimeter and area

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## Unit 9: REVIEW: MULTIPLE CONCEPTS

Lesson Title	Objective
How Numbers Work	Use number symbols to solve number sentences Write numbers in expanded form Identify number patterns
Math Facts	Practice basic math facts
Add/Subtract with Checking	Check your own addition work Check your own subtraction work
Multiplication	Memorize multiplication facts for 1's, 2's, 3's, 4's, and 5's
Equivalent Fractions	Identify equivalent fractions
Reading and Writing Fractions	Read and write fractions
Fraction Computation	Add and subtract fractions and mixed numbers
Measure: Length, Perimeter, and Area	Find the area of a shape Find the perimeter of a shape Identify customary units of length
Measure: Money, Time, and Temperature	Tell time using a face and digital clock Read temperatures on a thermometer Identify and count coins
Measure: Weight and Volume	Identify standard units of weight Identify standard units of volume
Symmetry and Shapes	Identify lines, and plane and solid shapes Place a line of symmetry on pictures
Roman Numerals	Identify Roman numerals Convert Arabic and Roman numerals
Likelihood and Graphing	Determine if events are likely, or probable Graph information on bar, line, picture, and circle graphs
Problem Solving	Solve problems written in words

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## Unit 10: BASIC MATH REVIEW

Lesson Title	Objective
Review: Rounding and Estimation	Review rounding to the tens, hundreds, and thousands place Use rounding to estimate answers
Review: Adding Fractions	Practice adding fractions
Review: Subtracting Fractions	Practice subtracting fractions
Review: Multiplication Facts	Practice multiplication facts from memory
Review: Mental Math, Graphs, Likelihood	Solving number sentences using mental math Identify information on a circle graph Determine likelihood and probability
Review: Addition and Subtraction Computation	Practice adding and subtracting Identify the parts of addition and subtraction problems
Review: Fractions and Decimals	Identify equivalent fractions from pictures Identify fractions and decimals
Review: Add and Subtract Mixed Numbers and Fractions	Add and subtract mixed numbers Add and subtract fractions
Review: Finding Missing Numbers	Solve problems with missing number symbols Solve problems with missing numbers
Review: Shapes and Symmetry	Identify a line of symmetry Identify plane and solid shapes
Review: Roman Numerals	Convert Arabic and Roman numerals
Review: Measurement	Identify standard units of measure including: Weight Length Volume Time Dozens
Review: Number Symbols and Grouping	Solve equations using parentheses to group numbers Solve equations using operation and number relation words
Review: Perimeter and Area	Find the area of figures Find the perimeter of figures
Review: Problem Solving	Solve problems on the following concepts: Number patterns Money Measurement

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## Unit 1: NUMBER SENSE AND PLACE VALUE

Lesson Title	Objective
Place Value to 1,000s	Review place value Review digits
Single-Digit Addition	Practice addition facts Review single-digit addition
Single-Digit Subtraction	Practice subtraction facts Review subtraction
Multi-Digit Addition	Review multi-digit addition with regrouping
Multi-Digit Subtraction	Review multi-digit subtraction with regrouping
Review Place Value to 1,000s	Write numbers in expanded notation Review place value to the thousands place
Multiplication Facts	Practice multiplication facts Review the multiplication process
Family of Facts	Create addition and subtraction fact families
Telling Time	Review telling time on a face clock
Number Words	Practice using place value Practice writing numbers
Patterns	Recognize number patterns
Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers Use mental math to add and subtract
Reading and Writing Fractions	Practice reading and writing fractions Define numerator and denominator
Practice Multiplication	Practice multiplication facts for 8's and 9's
Counting Money	Practice writing amounts of U.S. money Practice counting U.S. money
Operations	Review operation signs Practice solving equations
Review: Numbers	Review cardinal and ordinal numbers Review expanded notation
Story Problems	Practice solving story problems Learn three problem solving strategies

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## Unit 2: ROUNDING AND ESTIMATION

Lesson Title	Objective
Operations	Practice using operation symbols Practice addition, subtraction, and multiplication operations
Multiplication Facts: 6-10 and Review	Practice multiplication facts Multiply multi-digit numbers by a one digit multiplier
Using Standard Measures	Identify standard measures of time, money, volume, and distance
Place Value to 10,000s	Identify place value to the 10,000's place
Relation Symbols	Use relation symbols to compare the values of numbers
Missing Number Equations	Solve missing numbers equations
Review: Even and Odd Numbers	Review even and odd numbers and number patterns
Adding and Subtracting Fractions	Identify the parts of a fraction Add and subtract fractions with like denominators
Rounding Numbers to 10s	Round numbers to the nearest 10
Estimating Answers to 10s	Use rounding to estimate to the nearest 10
Review: Math Symbols	Review writing number words Review units of measurement Review mathematical symbols
Equivalent Fractions	Find equivalent fractions
Rounding Numbers to 100s	Round numbers to the nearest hundred
Estimating Answers to 100s	Use rounding to estimate to the nearest hundred
Review: Computation	Solve addition, subtraction, and multiplication problems
Review: Bar Graphs and Fractions	Construct a bar graph Solve fraction problems using pictures
Review: Fractions	Practice adding and subtracting fractions with like denominators

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## Unit 3: WHOLE NUMBERS AND FRACTIONS

Lesson Title	Objective
Place Value	Read and write numbers to the ten thousands place
Rounding Numbers to 10s, 100s, and 1,000s	Round numbers to the nearest ten, hundred, and thousands' place
Multiply with Carrying to 10s	Solve multiplication problems that require carrying
Multiplication Practice	Practice solving multiplication problems with and without carrying
Multi-Digit Addition and Subtraction	Practice regrouping in addition and subtraction
Rounding and Estimating	Solve addition and subtraction problems using rounding and estimation
Fractions Equal to Whole Numbers	Identify fractions with a value of one or more than one
Estimate Answers to 1,000s	Estimate sums and differences to the thousand's place
Relation Symbols	Compare the value of numbers using relation symbols
Fractions	Add and subtract fractions with like denominators
Add and Subtract to 10,000s	Add and subtract using regrouping to the ten thousand's place
Check Your Answers	Practice checking your own work when adding and subtracting
Equivalent Fractions	Use cross-multiplication to check for equivalent fractions Make equivalent fractions
Learn Numbers to 100,000s	Read and write numbers to the hundred thousand's place
Equations	Solve equations that contain a variable
Reading and Solving Story Problems	Solve story problems using clues found in the problem
Line Graphs	Interpret and create a line graph

## Unit 4: LINES AND SHAPES

Lesson Title	Objective
Plane and Solid Shapes	Identify plane and solid shapes
Practice Addition and Subtraction	Practice addition and subtraction with regrouping Regroup numbers that have a zero in the minuend
Place Value and Rounding	Review rounding and place value to the ten thousands' place
Multiply with Carrying to 100s	Learn the properties of multiplication Practice multiplying with regrouping
Lines, Segments, End Points, Rays, Angles	Identify end points, rays, and angles Identify lines and line segments
Lines, Directions, and Maps	Measure distances on a map Identify directions using a compass rose
Review: Plane and Solid Shapes	Review and identify plane and solid shapes
Fractions	Identify equivalent, proper, and improper fractions
Missing Number Problems	Solve missing number equations
Review: Operation and Relation Symbols	Solve equations using the proper operation and relation symbols
Review: Expanded Notation and Estimation	Estimate sums and differences using rounding Write numbers in expanded notation
Review: Fractions and Place Value	Review fractions and place value

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## Unit 5: DIVISION AND MEASUREMENT

Lesson Title	Objective
Introduction to Division	Divide sets into equal groups Make fact families using division facts
Multiplication	Multiply by one-digit multipliers
Addition and Subtraction	Practice addition and subtraction
Review: Time and Number Sense	Review telling time Review relation signs Review place value and writing numbers
Linear Measurement	Identify standard linear units of measurement
Capacity (Dry and Liquid Measurement)	Identify standard units of measurement for dry and liquid capacity
Division Facts	Practice memorizing division facts
Review: Multiplication	Multiply to the ten thousands' place
Reading a Calendar	Find information on a calendar
Perimeter and Area	Learn and use the formula for finding perimeter and area
Finding Perimeter and Area	Practice finding perimeter and area
Missing Number Problems	Practice solving equations with missing numbers
Division Practice	Practice solving division problems
Roman Numerals	Convert Arabic numbers to Roman numerals
Review: Regrouping	Practice regrouping in addition, subtraction, and multiplication
Patterns	Identify number patterns

## Unit 6: MULTIPLICATION AND FRACTIONS

Lesson Title	Objective
Prime and Composite Numbers	Identify prime and composite numbers
Multiples	Identify multiples and factors
Division with Remainders	Solve division problems with remainders
Equations and Grouping	Review missing number problems Use grouping to solve missing number problems
Proper and Improper Fractions	Identify proper and improper fractions using a number line
Multiplication Facts For 11 and 12	Practice multiplication facts for 11's and 12's
Fractions and Mixed Numbers	Add and subtract mixed numbers Read and write mixed numbers
Review: Division and Roman Numerals	Practice solving division with remainder problems Practice using Roman numerals
Measurements	Identify standard units of measure for weight Identify standard units of measure for length Identify standard units of measure for capacity
Equivalent Fractions	Identify equivalent fractions Review lines and line segments
Review: Rounding and Shapes	Round numbers to the nearest ten, hundred, and thousand Review plane shapes
Factors and Multiples	Identify factors and multiples
Problem Solving with Equations	Solve story problems using missing number equations

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## Unit 7: FRACTIONS AND PATTERNS

Lesson Title	Objective
Multiplication and Division	Review division with remainders Multiply with two-digit multipliers
Factors, Multiples, and Variables	Review prime and composite numbers Review relation signs Review factors and multiples Review variables
Fractions	Identify proper and improper fractions using graphics
Multiplication and Fractions	Simplify fractions Solve two-digit multiplication problems
Average and Number Rules	Determine the average of a set of numbers
Review: Measurement and Place Value	Review standard units of measure for length, weight, and volume
Fractions	Add, subtract, and simplify fractions
Missing Number Problems	Solve equations containing parentheses
Rounding Numbers and Place Value	Round numbers to the nearest ten, hundred, and thousand
Review: Shapes, Perimeter, and Area	Review plane and solid shapes Find the perimeter and area of shapes Review lines and angles
Fractions and Patterns	Convert mixed numbers to improper fractions Find number patterns
Practice: Operations and Money	Add and subtract amounts of money Use decimal points and dollar signs properly
Review: Cardinal and Ordinal Numbers	Practice using cardinal and ordinal numbers

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## Unit 8: DIVISION AND FRACTIONS

Lesson Title	Objective
Factoring and Place Value	Identify factors and multiples Identify prime and composite numbers
Review: Two-Digit Multiplication	Multiply two and three-digit numbers by a two-digit multiplier
Fractions	Identify mixed numbers, proper and improper fractions Add, subtract, and simplify fractions
Division	Review and practice division with remainders
Fractions	Find equivalent fractions Identify smallest common multiples Add and subtract fractions with unlike denominators
Missing Number Problems	Use missing number equations to solve problems
Multiplication	Multiply by one-digit and two-digit multipliers
Division	Solve multi-digit division problems with and without remainders
The Metric System	Identify metric units of measurement
Fractions	Find equivalent fractions Identify common denominators of fractions Add and subtract fractions with unlike denominators
Review: Time	Tell time on a face clock and a digital clock
Review: Operations and Rounding	Review and practice rounding Review and practice computation
Review: Roman Numerals, Measurement, and Symbols	Solve equations through the use of relation symbols Practice using Roman numerals Identify standard units of measure

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## Unit 9: DECIMALS AND FRACTIONS

Lesson Title	Objective
Decimals	Calculate with decimal numbers Read and write decimal numbers
Money	Practice adding and subtracting amounts of money
Multiplication of Whole Numbers	Practice multiplying by two-digit multipliers
Ordered Pairs	Use ordered pairs to find locations on a grid
Division and Averages	Review and practice division by one-digit divisors Review and practice finding averages
Add and Subtract Decimals	Add and subtract decimals
Fractions with Different Denominators	Find equivalent fractions Add and subtract fractions with unlike denominators
Equivalent Fractions and Decimals	Cross-multiply to find equivalent fractions Review place value of decimals
Multiply and Divide	Practice multiplication and division
Mixed Numbers	Add and subtract mixed numbers
Sensible Answers	Use rounding and estimation to decide if an answer is sensible
Review: Fractions	Review mixed numbers Review proper and improper fractions Review finding equivalent fractions Review addition and subtraction of fractions
Review	Review Roman numerals Review metric units of measurement Review perimeter and area Practice solving equations

## Unit 10: GRAPHING AND REVIEW

Lesson Title	Objective
Data Collection and Random Sampling	Define random sampling Define prediction
Project: Collecting Data	Take a random sample Collect and report data Make predictions from data of a random sample Report data from a random sample
Graphs	Graph data on line and bar graphs Graph data on circle and picture graphs
Whole Numbers	Practice the four basic operations: addition, subtraction, multiplication, and division Check multiplication and division problems
Decimal Numbers	Review computation with decimals Review reading and writing decimal numbers
Problem Solving with Fractions	Solve story problems using fractions
Fractions	Identify proper and improper fractions Simplify fractions Find common denominators Add and subtract fractions
Sizes, Shapes, and Measurements	Identify plane and solid shapes
Word Problems and Equations	Practice solving equations Practice solving word problems

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## Unit 1: PLACE VALUE, ADDITION, AND SUBTRACTION

Lesson Title	Objective
Whole Number Place Value	Identify place value. Read and write numbers in different forms.
Comparing and Ordering Whole Numbers	Compare and order numbers.
Decimal Number Place Value	Read and write decimal numbers in different forms. Identify place value for decimal numbers.
Comparing and Ordering Decimal Numbers	Compare and order decimal numbers.
Rounding Whole Numbers and Decimals	Round whole numbers and decimals.
Estimating Sums and Differences	Estimate sums and differences.
Add and Subtract Mentally	Add and subtract numbers mentally. Know the Commutative, Associative, and Identity Properties of Addition.
Adding and Subtracting Whole Numbers	Subtract whole numbers. Add whole numbers.
Adding Decimal Numbers	Add decimal numbers.
Subtracting Decimal Numbers	Subtract decimal numbers.
Project: Logical Reasoning	Solve logic puzzles using a diagram or table. Write your own logic puzzle and solution.
Review	Review place value for whole numbers and decimals. Review comparing and ordering whole numbers and decimals. Review rounding and estimating with whole numbers and decimals. Review the whole number properties. Review adding and subtracting whole numbers and decimals.

## Unit 2: MULTIPLYING WHOLE NUMBERS AND DECIMALS

Lesson Title	Objective
Estimating Whole Number Products	Estimate the product of two numbers.
Properties of Multiplication	Use the Distributive Property to multiply numbers mentally. Know the Commutative, Associative, and Identity Properties of Multiplication.
Multiplying Whole Numbers	Multiply whole numbers using a pencil and paper.
Exponents	Use exponents to show repeated multiplication. Find the value of a base and exponent.
Multiplying Whole Numbers by Powers of Ten	Multiply a whole number by a power of ten. Represent 10, 100, and 1,000 using exponents.
Project: How Much is a Million	Solve problems about the number one million.
Multiplying Decimals by Powers of Ten	Multiply decimal numbers by 10, 100, or 1,000.
Estimating Decimal Products	Estimate decimal number products.
Multiplying Whole Numbers by Decimals	Multiply a whole number by a decimal number.
Multiplying Decimals by Decimals	Multiply a decimal number by a decimal number.
Solving Multiplication Problems	Solve word problems using multiplication.
Review	Review estimating whole number and decimal products. Review the properties of multiplication. Review exponents. Review multiplying whole numbers and decimals by powers of ten. Review multiplying whole numbers and decimal numbers. Review solving multiplication word problems.

# Mathematics 500

## Unit 3: DIVIDING WHOLE NUMBERS AND DECIMALS

Lesson Title	Objective
Understanding Division	Understand what division is. Model a division problem to find a quotient.
Estimating Quotients	Estimate quotients using compatible numbers. Divide large numbers that end in zero(s).
Dividing Whole Numbers Remainders	Use long division to find a quotient. Solve division problems that have remainders.
Dividing by Multiples of Ten	Divide by multiples of ten.
Dividing Whole Numbers I	Divide with two-digit divisors.
Dividing Whole Numbers II	Divide with two-digit divisors.
Interpreting the Remainder	Interpret the remainder in a real life problem. Use division to solve real life problems.
Dividing by Powers of Ten	Divide whole numbers and decimals by 10, 100, and 1,000.
Dividing Decimals by Whole Numbers	Divide decimal numbers.
Dividing with Money	Solve money problems using division.
Review	Review modeling division problems. Review estimating quotients using compatible numbers. Review dividing numbers by multiples of ten. Review dividing whole numbers and decimals by powers of ten. Review solving division problems using long division. Review solving division problems that have remainders. Review solving real life problems.

## Unit 4: ALGEBRA AND GRAPHING

Lesson Title	Objective
Addition and Subtraction Expressions	Write and evaluate addition or subtraction expressions for a specific value, using substitution.
Multiplication Expressions	Write and evaluate multiplication expressions for a specific value, using substitution.
The Order of Operations	Use the order of operations to evaluate numerical expressions.
Addition and Subtraction Equations	Identify and solve addition or subtraction equations, using mental math.
Multiplication Equations	Identify and solve multiplication equations, using mental math.
Functions	Find the output of a function, given the input and function rule.
Project: Patterns	Determine the next figure or term in a sequence. Generate patterns.
The Coordinate Plane	Graph ordered pairs in Quadrant I of the coordinate plane
Graphing Functions	Graph functions in Quadrant I of the coordinate plane
Interpreting Graphs	Graph functions in Quadrant I of the coordinate plane.
Integers	Represent integers on the number line.
Review	Review writing and evaluating addition, subtraction, or multiplication expressions for a specific value, using substitution. Review using the order of operations to evaluate numerical expressions. Review identifying and solving addition, subtraction, or multiplication equations, using mental math. Review finding the output of a function, given the input and function rule. Review graphing ordered pairs and functions in Quadrant I of the coordinate plane. Review representing integers on the number line.

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## Unit 5: MEASUREMENT

Lesson Title	Objective
The Metric System	Name and compare metric units.
Length	Compare and convert measurements within the metric system.
Mass	Compare and convert measurements within the metric system.
Capacity	Compare and convert measurements within the metric system.
Length	Compare and convert measurements within the customary system.
Weight	Compare and convert measurements within the customary system.
Capacity	Compare and convert measurements within the customary system.
Project: Density	Determine the next density of materials per 1,000 cubic centimeters. Convert from kilograms to pounds.
Time	Compare and convert measurements of time.
Elapsed Time	Calculate elapsed time.
Temperature	Compare and convert measurements of temperature.
Review	Review naming metric units. Review comparing and converting measurements within the metric system and the customary system. Review comparing and converting measurements of time and finding elapsed time. Review comparing and converting measurements of temperature.

## Unit 6: FACTORS AND FRACTIONS

Lesson Title	Objective
Factors	Determine if a number is prime or composite. Find all the factors of a number.
Prime Factorization	Find the prime factorization of a number.
Greatest Common Factor	Find the prime factorization of a number.
Fractions	Represent a fraction using a model or number line.
Improper Fractions and Mixed Numbers	Convert between improper fractions and mixed numbers.
Simplifying Fractions	Write fractions in simplest form.
Equivalent Fractions	Determine if two fractions are equivalent. Find a missing value in a pair of equivalent fractions.
Least Common Multiple	List multiples of a number. Find the LCM of two numbers.
Comparing Fractions	Order fractions and mixed numbers from smallest to largest. Compare fractions and mixed numbers using the least common denominator.
Fractions and Decimals	Convert between fractions and decimals.
Rounding Fractions	Compare fractions to one half. Round mixed numbers to the nearest whole number.
Review	Review prime and composite numbers. Review finding factors, the prime factorization, and multiples of a number. Review finding the GCF and LCM of two numbers. Review fractions, improper fractions, and mixed numbers. Review simplifying fractions and writing equivalent fractions. Review comparing and ordering fractions and mixed numbers using the least common denominator. Review converting between fractions and decimals. Review rounding fractions and mixed numbers to the nearest whole number.

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## Unit 7: FRACTION OPERATIONS

Lesson Title	Objective
Adding and Subtracting Fractions	Add and subtract fractions that have like denominators.
Adding and Subtracting Mixed Numbers	Add and subtract mixed numbers with like denominators.
Estimating Sums and Differences	Estimate sums and differences of fractions and mixed numbers.
Adding Fractions	Add fractions with unlike denominators.
Subtracting Fractions	Subtract fractions with unlike denominators.
Adding Mixed Numbers	Add mixed numbers with unlike denominators.
Subtracting Mixed Numbers	Subtract mixed numbers with unlike denominators.
Multiplying Whole Numbers and Fractions	Multiply a fraction by a whole number.
Multiplying Fractions	Multiply proper fractions together.
Multiplying Mixed Numbers	Multiply with fractions, mixed numbers, and whole numbers.
Dividing Fractions	Divide with whole numbers and unit fractions.
Review	Review adding and subtracting fractions and mixed numbers with like denominators. Review adding and subtracting fractions and mixed numbers with unlike denominators. Review estimating with fractions and mixed numbers. Review multiplying with fractions and mixed numbers. Review dividing with unit fractions.

## Unit 8: DATA ANALYSIS AND PROBABILITY

Lesson Title	Objective
Collecting Data and Frequency Tables	Organize data using a frequency table.
Measures of Central Tendency	Find the mean, median, mode, and range of a set of data.
Line Plots	Organize data using a line plot.
Stem-and-Leaf Plots	Organize data using a stem-and-leaf plot.
Bar Graphs	Display data in a bar graph.
Line Graphs	Display data in a line graph.
Choosing the Right Graph	Determine the appropriate graph to use for a given set of data.
Probability	Determine if an event is less likely, equally likely, or more likely.
Probability as a Fraction	Represent the probability of an event as a fraction.
Listing Outcomes	List the outcomes of one or two events using a tree diagram.
Making Predictions	Make predictions about an event using experimental probability.
Review	Find the mean, median, mode, and range of a set of data. Organize and display data using a frequency table, line plot, stem-and-leaf plot, bar graph, line graph, and pictograph. Determine the appropriate graph to use for a given set of data. Determine the likelihood of an event. Represent the probability of an event as a fraction. List the outcomes of one or two events using a tree diagram. Make predictions about an event using experimental probability.

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## Unit 9: GEOMETRY

Lesson Title	Objective
Geometry Terms	Use correct geometry terminology and notation.
Angles	Classify angles as right, acute, or obtuse. Measure angles using a protractor.
Circles	Identify parts of a circle.
Polygons	Determine if a polygon is regular or not. Name polygons.
Triangles	Classify triangles by both sides and angles.
Quadrilaterals	Classify quadrilaterals.
Solid Figures	Classify solid figures. Identify nets of solid figures.
Similar and Congruent Figures	Identify congruent and similar figures.
Transformations	Identify transformations: translations, reflections, and rotations.
Symmetry	Identify point and line symmetry.
Project: Constructions	Construct an equilateral triangle using a compass and straight edge. Construct a regular hexagon using a compass and straight edge. Construct a square using a compass and straight edge. Create a design using rotational and line symmetry.
Review	Use correct geometry terminology and notation. Measure angles using a protractor. Classify angles as right, acute, or obtuse. Identify parts of a circle. Name polygons and determine if a polygon is regular or not. Classify triangles, quadrilaterals, and solid figures. Identify nets of solid figures. Identify congruent and similar figures. Identify transformations: translations, reflections, and rotations. Identify point and line symmetry.

# Mathematics 500

## Unit 10: PERIMETER, AREA, AND VOLUME

Lesson Title	Objective
Polygons	Find the perimeter of polygons.
Regular Polygons	Find the perimeter of regular polygons and rectangles.
Circumference	Find the approximate circumference of a circle, given the diameter.
Area	Find the area of plane figures.
Squares and Rectangles	Find the area of rectangles.
Parallelograms	Find the area of parallelograms.
Triangles	Find the area of composite figures. Find the area of triangles.
Surface Area	Find the surface area of rectangular prisms.
Volume	Find the volume of rectangular prisms.
Solving Volume Problems	Find the volume of rectangular prisms.
Project: Solid Figures	Draw 2-d views of these figures. Construct solid figures using blocks or sugar cubes. Find surface area and volume of rectangular prisms.
Review	Find the perimeter of polygons, including regular polygons and rectangles. Find the approximate circumference of a circle, given the diameter. Find the area of plane figures, including rectangles, parallelograms, triangles, and composite figures. Find the surface area and volume of rectangular prisms.

## Unit 11: COURSE REVIEW AND EXAM

Lesson Title	Objective
Course Review 1	Review whole numbers and decimals. Review adding, subtracting, multiplying, and dividing with whole numbers and decimals. Review estimating with whole numbers and decimals. Review expressions, equations, and functions. Review graphing ordered pairs. Review measurement in the metric system and the customary system. Review temperature.
Course Review 2	Review prime factorization and finding the GCF and LCM of two numbers. Review comparing fractions and writing equivalent fractions. Review adding, subtracting, and multiplying with fractions and mixed numbers. Review data analysis and probability. Review classifying polygons and solid figures. Review transformations. Review finding perimeter, circumference, area, surface area, and volume.

# Mathematics 600

## Unit 1: WHOLE NUMBERS AND ALGEBRA

Lesson Title	Objective
Rounding and Estimation	Identify the place value of a digit in a whole number. Round and estimate with whole numbers.
Whole Number Operations	Solve word problems involving whole numbers. Add, subtract, multiply, and divide with whole numbers.
Real Number Properties	Use the commutative, associative, identity, and distributive properties to simplify problems. Identify the commutative, associative, identity, and distributive properties.
Exponents	Find the value of a power. Use exponents to show repeated multiplication.
Squares, Cubes, and Roots	Identify perfect squares and perfect cubes. Find the square root of a perfect square. Find the cube root of a perfect cube.
Order of Operations	Use the order of operations to solve problems.
Number Patterns	Describe a number pattern. Find the next term in a number pattern.
Variables	Translate between written and mathematical expressions. Represent a word problem using a mathematical expression.
Expressions	Substitute numbers for variables in an expression. Evaluate expressions for specific numbers.
Variable Expressions	Simplify expressions using addition or multiplication. Simplify expressions using the distributive property.
Equations and Mental Math	Solve one-step equations using mental math. Determine the question that an equation asks.
Review	Review rounding, estimating, and computing with whole numbers. Review the commutative, associative, identity, and distributive properties. Review exponents and roots. Review the order of operations. Review number patterns and sequences. Review translating and evaluating expressions. Review simplifying expressions. Review solving equations.

# Mathematics 600

## Unit 2: DATA ANALYSIS

Lesson Title	Objective
Collecting Data and the Mean	Describe a set of data using the mean. Determine whether a sample is biased or random.
Median, Mode, and Range	Find the median, mode, and range for a set of data.
Describing Data	Determine how an outlier affects the measures of central tendency. Describe a set of data using the median, mode, and range of a set of numerical data. Determine when each measure of central tendency provides a good representation of the data.
Frequency Tables	Organize and display data in frequency tables. Interpret data displayed in a frequency table.
Histograms	Interpret data displayed in a histogram. Organize and display data using histograms.
Line Plots	Organize and display data using line plots. Interpret data displayed in line plots.
Stem-and-Leaf Plots	Interpret data displayed in a stem-and-leaf plot. Organize and display data using stem-and-leaf plots.
Bar Graphs	Organize and display data using bar graph. Interpret data displayed in a bar graph.
Line Graphs	Interpret data displayed in a line graph. Organize and display data using line graphs.
Venn Diagrams	Use Venn diagrams to solve problems. Solve counting problems with Venn diagrams.
Vertex-Edge Graphs	Solve route problems with vertex-edge graphs.
Review	Review whether a sample is biased or random. Review the measures of central tendency. Review organizing and display data in frequency tables, histograms, line plots, stem-and-leaf plots, bar graphs, and line graphs. Review using Venn diagrams to solve problems, including counting problems Review solving route problems with vertex-edge graphs.

# Mathematics 600

## Unit 3: DECIMALS

Lesson Title	Objective
Decimals and Place Value	Read and write decimal numbers. Identify place value for decimal numbers.
Ordering and Comparing	Compare and order decimal numbers.
Rounding and Estimating	Round decimal numbers using place value. Estimate with decimal numbers using different types of estimation.
Adding and Subtracting	Add and subtract decimal numbers.
Multiplying by Whole Numbers	Multiply decimal numbers by whole numbers.
Multiplying by Decimals	Multiply decimal numbers together.
Dividing by Whole Numbers	Divide decimal numbers by whole numbers.
Dividing by Decimals	Divide whole numbers by decimals. Divide decimals by decimals.
Length	Identify the different metric measurements for length. Estimate and measure with metric length.
Mass and Capacity	Estimate with metric units of mass and capacity. Identify the units of mass and capacity in the metric system.
Multiplying and Dividing by Powers of Ten	Multiply and divide decimal numbers by powers of ten.
Converting Metric Units	Convert units of measurement in the metric system.
Review	Review place value of decimal numbers. Review reading and writing decimal numbers. Review ordering, comparing, rounding, and estimating with decimal numbers. Review adding and subtracting decimal numbers. Review multiplying and dividing by decimal numbers. Review multiplying and dividing decimal numbers by powers of ten. Review the metric system and converting metric units.

# Mathematics 600

## Unit 4: FRACTIONS

Lesson Title	Objective
Divisibility and Prime Factorization	Use divisibility rules to find the prime factorization of a number. Express a number as a product of prime numbers. Determine whether a number is prime or composite.
Greatest Common Factor	List all the factors of a number. Find the GCF of two numbers.
Fractions	Represent a fraction on the number line. Use a fraction to show part of a whole.
Equivalent Fractions	Identify and find equivalent fractions. Reduce fractions to lowest terms.
Least Common Multiple	Find the least common multiple of two numbers.
Comparing and Ordering Fractions	Compare and order fractions.
Improper Fractions and Mixed Numbers	Convert between improper fractions and mixed numbers. Locate mixed numbers on the number line. Compare mixed numbers and improper fractions.
Changing Decimals to Fractions	Convert decimals to fractions.
Changing Fractions to Decimals	Convert fractions and mixed numbers to decimal numbers. Identify terminating and repeating decimal numbers.
Estimating with Fractions	Estimate with fractions using the four operations. Round fractions to the nearest whole or half.
Measures of Time	Find elapsed time. Add and subtract measurements of time.
Review	Review the divisibility rules and finding the prime factorization of a number. Review factors, the greatest common factor (GCF), and reducing fractions. Review proper fractions, improper fractions, and mixed numbers. Review multiples, the least common multiple (LCM), and comparing and ordering fractions. Review converting between decimal numbers and fractions. Review rounding and estimating with fractions. Review adding and subtracting with time and finding elapsed time.

# Mathematics 600

## Unit 5: FRACTION OPERATIONS

Lesson Title	Objective
Fractions with Like Denominators	Add and subtract fractions with like denominators.
Fractions with Unlike Denominators	Add and subtract fraction with unlike denominators.
Mixed Numbers	Add and subtract mixed numbers.
Renaming Mixed Numbers	Rename mixed numbers. Subtract with mixed numbers.
Multiplying Fractions	Multiply two proper fractions. Evaluate an expression using the order of operations.
Multiplying Mixed Numbers	Multiply mixed numbers.
Dividing Fractions	Divide proper fractions and whole numbers.
Dividing Mixed Numbers	Divide with mixed numbers.
Length	Estimate and measure with customary units of length. Convert between customary units of length.
Weight	Convert between customary units of weight. Estimate and measure with customary units of weight.
Capacity	Convert between customary units of capacity. Estimate and measure with customary units of capacity.
Review	Review converting customary units. Review multiplying and dividing mixed numbers. Review adding and subtracting mixed numbers. Review multiplying and dividing fractions. Review estimating and measuring with customary units. Review adding and subtracting fractions with like and unlike denominators.

# Mathematics 600

## Unit 6: RATIO, PROPORTION, AND PERCENT

Lesson Title	Objective
Ratios	Express a ratio in lowest terms. Use a ratio table to solve a problem. Use a ratio to compare two quantities.
Geometry: Circumference	Find the circumference of a circle.
Rates	Determine a unit rate. Solve problems using a unit rate. Compare rates.
Proportions	Determine if two ratios form a proportion. Solve a proportion for a missing value.
Solving Proportions	Use a proportion to solve for a missing value.
Scale Drawings	Use a proportion to find a length in a scale drawing.
Project: Make a Scale Drawing	Draw a floor plan of your classroom or bedroom.
Converting Between Decimals and Percents	Compare and order decimals, fractions, and percents. Use a decimal or percent to represent the same value.
Converting Between Fractions and Percents	Use a fraction or percent to represent the same value. Understand percent.
Data Analysis: Circle Graphs	Display information in a circle graph. Interpret a circle graph.
Percent of a Number	Find the percent of a number.
Review	Review circle graphs. Review percent and finding the percent of a number. Review circumference of a circle. Review scale drawings. Review ratios and rates. Review proportions.

# Mathematics 600

## Unit 7: PROBABILITY AND GEOMETRY

Lesson Title	Objective
Introduction to Probability	Find the theoretical probability of a simple event.
Complement Events	Find the theoretical probability of a simple event and its complement.
Sample Space	Find the probability of independent events. Display the sample space of an event on a tree diagram, list, or table.
Project: Theoretical vs. Experimental Probability	Find the experiment probability of an event.
Introduction to Geometry	Identify basic geometric components. Use correct geometric terminology and notation.
Measuring and Classifying Angles	Classify and measure acute, obtuse, right, and straight angles.
Angle Relationships	Use angle relationships (vertical, complementary, and supplementary) to solve problems.
Triangles	Find a missing angle measure of a triangle. Classify triangles based on their attributes.
Quadrilaterals	Find a missing angle measure of a quadrilateral. Classify quadrilaterals based on their characteristics.
Polygons	Classify polygons based on their attributes.
Congruent and Similar Figures	Determine if two figures are congruent, similar, or neither.
Review	Find the theoretical probability of a simple event and its complement. Display the sample space of an event on a tree diagram, list, or table and find the probability of independent events. Find a missing angle measure of a triangle or a quadrilateral. Classify acute, obtuse, right, and straight angles. Classify triangles, quadrilaterals, and other polygons based on their attributes. Determine if two figures are congruent, similar, or neither. Use correct geometric terminology and notation. Use angle relationships (vertical, complementary, and supplementary) to solve problems.

# Mathematics 600

## Unit 8: GEOMETRY AND MEASUREMENT

Lesson Title	Objective
Perimeter	Review how to find the circumference of a circle. Find the perimeter of a polygon.
Area of Parallelograms	Find the area of a parallelogram.
Area of Triangles	Find the area of a triangle.
Area of Composite Figures	Find the area of simple composite figures.
Area of Circles	Find the area of a circle.
Project: Estimating Area	Estimate the area of irregular figures.
Solid Figures	Classify solid figures.
Surface Area of Rectangular Prisms	Find the surface area of a rectangular prism.
Volume of Rectangular Prisms	Find the volume of a rectangular prism.
Finding Missing Dimensions	Find a missing dimension of a rectangular prism, given the surface area or volume.
Project: Triangular Prisms	Find the surface area and volume of a triangular prism.
Review	Find the perimeter of a polygon. Find the area of a parallelogram, a triangle, a circle, and simple composite figures. Review finding the circumference of a circle. Classify solid figures. Find the surface area and volume of a rectangular prism. Find a missing dimension of a rectangular prism, given the surface area or volume.

## Unit 9: INTEGERS AND TRANSFORMATIONS

Lesson Title	Objective
Integers	Represent integers as points on the number line.
Comparing and Ordering Integers	Compare and order integers.
Absolute Value	Find the absolute value of a number.
Coordinate Plane	Graph ordered pairs on the coordinate plane, in all four quadrants.
Addition	Add with integers.
Subtraction	Subtract with integers.
Multiplication	Multiply with integers.
Division	Divide with integers.
Translations	Determine the effect of a translation on a point in the coordinate plane. Know that translations, reflections, and rotations preserve size and shape.
Reflections and Rotations	Determine the affect of a reflection on a point in the coordinate plane. Identify whether a figure has been rotated and the degree of rotation.
Line Symmetry	Identify line symmetry.
Review	Identify whether a figure has been rotated, and the degree of rotation. Compare and order integers. Identify line symmetry. Determine the effect of a translation or a reflection on a point in the coordinate plane. Find the absolute value of a number. Add, subtract, multiply, and divide with integers. Know that translations, reflections, and rotations preserve size and shape. Represent integers as points on the number line.

# Mathematics 600

## Unit 10: EQUATIONS AND FUNCTIONS

Lesson Title	Objective
Equations	Determine if a given value is a solution of a one- or two-step equation.
Writing Equations	Translate and write one- and two-step equations.
Addition Equations	Solve one-step addition equations using inverse operations.
Subtraction Equations	Solve one-step subtraction equations using inverse operations.
Multiplication Equations	Solve one-step multiplication equations using inverse operations.
Division Equations	Solve one-step division equations using inverse operations.
Inequalities	Determine if a given value is a solution of a one- or two-step inequality. Translate inequality statements
Graphing Inequalities	Graph inequality statements.
Functions	Find an output of a function, given the function rule and an input value.
Function Rules	Find an input of a function, given the function rule and an output value. Determine a function rule.
Graphing Functions	Graph functions on a coordinate plane
Review	Determine if a given value is a solution of a one- or two-step equation. Translate and write one- and two-step equations and inequalities. Solve one-step addition, subtraction, multiplication, and division equations using inverse operations. Graph functions on a coordinate plane. Given two of the following: the function rule, an output value, and an input value; find the third. Graph inequality statements. Determine if a given value is a solution of a one- or two-step inequality.

## Unit 11: COURSE REVIEW AND EXAM

Lesson Title	Objective
Course Review 1	Review the International System of Units and U.S. Customary System of Units. Review fractions and computing with fractions. Review decimal numbers and computing with decimal numbers. Review whole numbers and their properties. Review collecting, describing, organizing, and interpreting data.
Course Review 2	Review equations and functions. Review ratios, proportions, and percents. Review probability. Review two-dimensional geometry. Review integers. Review three-dimensional geometry. Review the coordinate plane and transformations.

# Mathematics 700

## Unit 1: INTEGERS

Lesson Title	Objective
Integers on the Number Line	Locate integers on the number line. Represent positive and negative values.
Comparing and Ordering Integers	Compare two integers using inequality symbols. Put a group of integers in order.
Absolute Value	Determine the absolute value of a number. Find pairs of opposite numbers.
Adding Integers with the Same Sign	Add integers with the same sign. Use addition to solve word problems.
Adding Integers with Different Signs	Add integers with different signs. Use addition to solve word problems.
Subtracting Integers	Subtract integers. Use subtraction to solve word problems.
Multiplying Integers	Multiply integers.
Dividing Integers	Divide integers.
Using Integers	Determine which operation to use in a given situation. Solve problems using Addition, subtraction, multiplication, and division.
The Real Number System	Classify numbers.
Real Number Properties	Identify the associative, commutative, and identity properties. Use the associative, commutative, and identity properties to simplify expressions.
The Distributive Property	Use the distributive property to simplify expressions.
Order of Operations	Use the order of operations to simplify expressions.
Exponents and the Order of Operations	Use exponents to represent repeated multiplication. Use the order of operations to simplify expressions.
Review	Review absolute value. Review using integers to solve word problems. Review the real number system and its properties. Review adding, subtracting, multiplying, and dividing integers. Review comparing and ordering integers. Review locating integers on the number line. Review exponents. Review the order of operations.

# Mathematics 700

## Unit 2: FRACTIONS

Lesson Title	Objective
Fractions and Mixed Numbers	Identify the different parts of fractions and mixed numbers. Round fractions and mixed numbers. Convert between mixed numbers and improper fractions.
Equivalent Fractions	Identify equivalent fractions. Identify fractions written in simplest form.
Divisibility Rules and Prime Factorization	Identify the basic divisibility of a number. Identify a number as prime or composite. Factor numbers. Use a factor tree to find the prime factorization of a number.
Greatest Common Factor and Least Common Multiple	Find the LCM of a set of numbers. Define the difference between the GCF and the LCM of a set of numbers. Find the GCF of a set of numbers.
Adding and Subtracting Fractions with Like Denominators	Subtract fractions with like denominators. Add fractions with like denominators. Add and subtract mixed numbers.
Adding and Subtracting Fractions with Unlike Denominators	Add and subtract mixed numbers. Add fractions with unlike denominators. Subtract fractions with unlike denominators.
Reducing Fractions	Reduce or simplify fractions. Determine the GCF of the numerator and denominator of a fraction.
Comparing and Ordering Fractions	Compare and order fractions using the LCD.
Multiplying Fractions	Multiply fractions and mixed numbers. Use estimation to determine the reasonableness of an answer.
Dividing Fractions	Determine the reciprocal of a given fraction. Divide fractions and mixed numbers. Use estimation to determine if an answer is reasonable.
Project: Chef for a Day	Convert between improper fractions and mixed numbers. Add, subtract, and multiply fractions and mixed numbers. Determine the LCD. Reduce fractions to lowest terms.
Review	Review operations with fractions and mixed numbers. Review finding equivalent fractions. Review parts of fractions and mixed numbers. Review simplifying fractions. Review the different types of fractions. Review comparing and ordering fractions.

# Mathematics 700

## Unit 3: DECIMALS

Lesson Title	Objective
Comparing and Ordering Decimals	Put a group of decimals in ascending and descending order. Identify the larger decimal in pairs or small groups of decimals.
Rounding and Estimating Decimals	Round decimals to specified place values. Apply rounding skills to help with estimating.
Adding and Subtracting Decimals	Add and subtract decimals.
Multiplying and Dividing Decimals	Calculate the quotient of two decimal numbers. Calculate the product of a whole number and a decimal number. Divide decimal numbers by powers of ten. Calculate the product of two decimal numbers.
Terminating and Repeating Decimals	Distinguish between terminating and repeating decimals. Convert decimals into simplified fractions.
Fractions as Decimals	Rewrite fractions and mixed numbers as decimal numbers.
Using Decimals	Solve problems containing decimals and fractions.
Scientific Notation	Interpret numbers in scientific notation. Write numbers in scientific notation.
The Metric System	Identify metric units. Convert metric units using multiplication or division.
Review	Review comparing and ordering decimal numbers. Review solving application problems that contain decimal numbers and fractions.  Review converting between decimal numbers and fractions. Review scientific notation. Review rounding and estimating decimal numbers. Review converting between metric (SI) units. Review adding, subtracting, multiplying, and dividing decimal numbers.

# Mathematics 700

## Unit 4: PATTERNS AND EQUATIONS

Lesson Title	Objective
Working with Variables and Expressions	Translate a word phrase into a mathematical expression. Use a variable to represent an unknown number.
Translating Word Sentences	Translate between word sentences and mathematical equations. Write an equation to represent a word problem.
Evaluating Expressions	Evaluate expressions for specific variables. Substitute values in for variables in an expression.
Using Formulas to Solve Problems	Use a formula to solve a problem.
Identifying Number Patterns	Identify arithmetic and geometric sequences. Find the next term in an arithmetic or geometric sequence.
Describing Number Patterns	Use an equation for an arithmetic or geometric sequence to find the value of terms in the sequence. Describe an arithmetic or geometric sequence with an equation.
Identifying Functions	Determine if a set of inputs and outputs represents a function.
Identifying Function Rules	Translate a verbal phrase to a mathematical expression. Identify the function rule for a set of inputs and outputs.
Solving Equations Using Mental Math	Solve a simple equation using mental math.
Solving Equations Using Addition and Subtraction	Solve equations using addition.  Solve equations using subtraction.
Solving Equations Using Multiplication and Division	Solve equations using multiplication.  Solve equations using division.
Solving Two-Step Equations	Solve two-step equations using the four basic operations. Translate word problems into two-step equations and then solve.
Working with Inequalities	Translate word sentences into mathematical inequalities. Graph the solution to an inequality on the number line.
Solving One-Step Inequalities	Solve one-step inequalities and graph the solution set on a number line.
Review	Review translating between word phrases or sentences and mathematical expressions, equations, or inequalities. Review evaluating expressions and formulas for specific values. Review arithmetic and geometric sequences and the equations that can be used to describe them. Review solving inequalities and graphing the solution sets on a number line. Review solving equations using the four operations. Review functions and function rules. Review using variables to represent unknown numbers.

# Mathematics 700

## Unit 5: RATIOS AND PROPORTIONS

Lesson Title	Objective
Ratios	Write and simplify ratios.
Rates	Write and simplify rates. Compare ratios using unit rates.
Proportions	Write and solve proportions.
Converting Customary Units	Convert between customary units.
Converting Metric Units	Convert between units in the metric system.
Similarity	Use a proportion to find a missing length of a similar triangle. Recognize and work with similar figures.
Scale Drawings	Use proportions to find missing lengths.
Converting Between Fractions, Decimals, and Percents	Convert fractions and decimals to percents. Convert percents to fractions and decimals.
Percent of a Number	Find the percent of a number.
Percent of Change	Calculate a percent of change.
Solving Percent Problems Using Proportions	Solve percent problems using a proportion.
Solving Percent Problems Using Equations	Solve percent problems using an equation.
Review	Review converting between customary units. Review comparing ratios using unit rates. Review solving percent problems using a proportion or an equation. Review converting between fractions, decimals, and percents. Review recognizing similar figures and working with scale drawings. Review finding the percent of a number and the percent of change. Review converting between metric units. Review writing and simplifying ratios and rates. Review using a proportion to find a missing length of a similar triangle. Review writing and solving proportions.

## Unit 6: PROBABILITY AND GRAPHING

Lesson Title	Objective
Theoretical Probability	Determine the theoretical probability of an event.
Experimental Probability	Determine the experimental probability of an event.
Sample Space	Determine the sample space for an experiment.
Independent and Dependent Events	Determine if events are independent or dependent. Determine the probability of independent and dependent events.
Graphing Ordered Pairs	Plot ordered pairs on a rectangular coordinate system.
Graphing Linear Equations	Use a table to graph a linear equation.
Slope	Determine the slope of a linear function.
Direct Variation	Identify the slope of a direct variation. Graph direct variations. Determine if a function is a direct variation.
Review	Review using a table to graph a linear equation. Review plotting ordered pairs on a rectangular coordinate system. Review determining if events are independent or dependent. Review determining the slope of a linear function, including direct variation. Review determining the probability of independent and dependent events. Review determining the sample space for an experiment. Review determining if a function is a direct variation. Review graphing direct variations. Review determining the theoretical and experimental probability of an event.

# Mathematics 700

## Unit 7: DATA ANALYSIS

Lesson Title	Objective
Collecting Data	Determine whether a question is biased or unbiased. Determine whether a sample is biased or random. Make predictions from a sample.
Determining Mean, Median, and Mode	Determine the mean, median, and mode of a set of data.
Using Mean, Median, and Mode	Use the mean to find a missing value. Determine which measure of central tendency should be used in a situation. Determine the effect of an outlier on an average.
Using Range	Determine the effect of outliers on the range and the interquartile range. Find the interquartile range of a set of data. Find the range of a set of data.
Box-and-Whisker Plots	Interpret box-and-whisker plots. Construct a box-and-whisker plot for a set of numbers. Identify the different parts of a box-and-whisker plot.
Stem-and-Leaf Plots	Construct a stem-and-leaf plot. Interpret a stem-and-leaf plot.
Histograms	Interpret a histogram. Construct a histogram from a stem-and-leaf plot or a frequency table.
Other Graphs	Display data in a pictograph. Use a Venn diagram to organize information and solve problems.
Line Graphs	Use a line graph to make predictions about the data. Interpret and construct line graphs.
Bar Graphs	Interpret bar graphs and double bar graphs. Construct bar graphs and double bar graphs.
Circle Graphs	Construct and interpret circle graphs. Determine the percent and degree measures of sections on a circle graph.
Scatter Plots	Construct and interpret scatter plots. Make predictions from a set of data represented by a scatter plot.
Review	Review how to define and find the measures of central tendency and dispersion.  Review how to construct, interpret, and use the following graphs: box-and-whisker plots, stem-and-leaf plots, histograms, pictographs, line graphs, bar graphs, circle graphs, and scatter plots. Review how to use Venn diagrams to solve problems. Review making predictions from a random sample, line graph, or scatter plot. Review the definitions of biased and unbiased samples and questions.

# Mathematics 700

## Unit 8: GEOMETRY

Lesson Title	Objective
Introduction to Geometry	Classify angles by their measures. Identify basic geometric components. Use correct geometric terminology and notation.
Special Pairs of Angles	Use angle properties to determine missing angle measures. Identify special pairs of angles.
Polygons	Identify polygons and use correct geometric terminology to describe them. Determine the measure of an interior angle of a regular polygon.
Circles	Identify parts of a circle. Use circle properties to find missing measures.
Project: Inscribed Polygons	Inscribe regular polygons in circles using a protractor, compass, and straight edge.
Triangles	Find a missing angle measure of a triangle. Identify and classify types of triangles.
Quadrilaterals	Find a missing measure of a quadrilateral. Identify and classify types of quadrilaterals.
Similar Polygons	Identify similar and congruent figures. Identify corresponding parts of similar and congruent figures. Use properties of similar and congruent figures to solve problems.
Symmetry	Determine if a figure has line or rotational symmetry.
Reflections	Determine the coordinates of an image following a reflection.
Translations	Determine the coordinates of an image following a translation.
Compound Transformations	Determine the coordinates of an image following a compound transformation.
Review	Review using angle and circle properties to determine missing angle measures and to find angle sums. Review identifying corresponding parts of similar and congruent figures. Review identifying basic geometric components and shapes. Determine the coordinates of an image following a reflection, translation, or compound transformation. Determine if a figure has line symmetry or rotational symmetry. Review using properties of similar and congruent figures to solve problems.

# Mathematics 700

## Unit 9: MEASUREMENT AND AREA

Lesson Title	Objective
Perimeter	Use the perimeter of a polygon to find a missing side length. Calculate the perimeter of a polygon.
Circumference	Use the circumference of a circle to find the radius or diameter. Calculate the circumference of a circle.
Composite Figures	Calculate the perimeter of a composite figure.
Area of Parallelograms	Calculate the perimeter of a composite figure.
Area of Triangles and Trapezoids	Calculate the area of a trapezoid. Calculate the area of a triangle.
Area of Circles	Calculate the area of a circle.
Area of Composite Figures	Calculate the area of a composite figure.
Dimension Changes	Determine the area of a figure after its dimensions have changed.
Squares and Square Roots	Calculate the square root of a number. Calculate the square of a number. Determine between which two integers a square root lies.
The Pythagorean Theorem	Use the Pythagorean theorem to find a missing length of a side of a right triangle.
Applying the Pythagorean Theorem	Apply the Pythagorean theorem to solve word problems.
Review	Review using the Pythagorean Theorem to find a missing side length of a right triangle and to solve application problems. Review finding the area of parallelograms, triangles, trapezoids, circles, and composite figures. Review squares and square roots. Review using the perimeter, circumference, or area of a plane figure to find a missing length. Review how changes in dimension affect the area of a plane figure. Review finding the perimeter or circumference of a plane figure.

# Mathematics 700

## Unit 10: SURFACE AREA AND VOLUME

Lesson Title	Objective
Classifying and Identifying Solids	Classify and identify solid figures.
Nets	Identify and sketch the net of a solid figure.
Surface Area and Volume	Explain what surface area and volume mean. Use an algorithm to find the surface area or volume of a solid figure.
Surface Area of Rectangular Prisms	Use a formula to find the surface area of a rectangular prism.
Volume of Rectangular Prisms	Use a formula to find the volume of a rectangular prism.
Surface Area of Triangular Prisms	Use a formula to find the surface area of a triangular prism.
Volume of Triangular Prisms	Find the volume of any triangular prism.
Surface Area of Cylinders	Use a formula to find the surface area of a cylinder.
Volume of Cylinders	Use a formula to find the volume of a cylinder.
Dimension Changes	Find the surface area or volume of a solid figure given a change in the dimensions. Determine how the surface area or volume of a solid figure is affected by a change in the dimensions.
Review	Review the surface area formulas for rectangular prisms, triangular prisms and cylinders. Review how to classify, identify, and draw the net of solid figures. Review the definitions of surface area and volume. Review the effects of dimension changes on the surface area and volume of solid figures. Review how to find the surface area and volume of solid figures using their nets. Review the volume formulas for rectangular prisms, triangular prisms, and cylinders.

## Unit 11: COURSE REVIEW AND EXAM

Lesson Title	Objective
Course Review 1	Review translating, solving, and graphing functions, equations, and inequalities. Review applications of integers, fractions, decimals, percents, and proportions. Review using proportions to solve problems. Review expressing negative and fractional values using integers, fractions, decimals, and percents. Review computing with integers, fractions, and decimals. Review comparing and ordering integers, fractions, decimals, and percents.
Course Review 2	Review classifying angles and polygons. Review collecting, describing, organizing, and graphing data. Review probability. Review graphing functions. Review perimeter, area, surface area, and volume. Review transformations.

# Pre-algebra

## Unit 1: THE REAL NUMBER SYSTEM

Lesson Title	Objective
Subsets of the Real Number System	Identify irrational numbers. Classify numbers.
Using Variables	Use substitution to simplify expressions and formulas. Identify a variable, term, or expression.
The Number Line	Find the opposite of a number. Find the distance between two points on the number line. Evaluate numerical expressions containing absolute value symbols. Locate numbers on the number line.
Comparing Rational Numbers	Use the correct inequality symbol to compare rational numbers. Place rational numbers on the number line.
Properties of the Real Numbers	Use number properties to make computation easier. Recognize and name number properties used in number sentences.
Exponents	Simplify expressions with positive bases and positive or negative exponents. Represent powers as repeated multiplication. Multiply and divide exponential expressions with positive bases and positive exponents.
Scientific Notation	Write numbers given in scientific notation in standard form. Write numbers given in standard form in scientific notation.
Square Roots	Determine between which two integers an irrational root lies. Evaluate perfect square roots. Simplify square roots that are not perfect squares. Determine if a square root is a rational or irrational number.
Order of Operations	Use the order of operations to simplify numerical expressions.
Review	Review evaluating expressions that contain variables. Review classifying numbers. Review the properties of real numbers. Review exponents. Review scientific notation. Review the order of operations. Review absolute value. Review square roots. Review comparing and ordering numbers.

# Pre-algebra

## Unit 2: MODELING PROBLEMS IN INTEGERS

Lesson Title	Objective
Translating Expressions and Equations	Translate written statements into math symbols, expressions, and equations. Represent a simple word problem as an equation.
Solving One-Step Equations	Identify the property of equality used to solve a one-step equation. Identify the inverse operation needed to solve a one-step equation. Translate and solve one-step equations in context.
Solving Two-Step Equations	Translate word problems into two-step equations and then solve. Solve two-step equations using real numbers. Check solutions for reasonableness.
Relations and Functions	Identify inputs and outputs, and domains and ranges. Identify multiple representations of the same relations and/or functions. Identify a relation that is a function.
Functions	Recognize a function represented in various ways: rule, table, mapping, etc. Complete a function table. Evaluate a function given a value. Understand function notation.
Analyzing Graphs	Match a story with a graph. Answer questions based on a graph by reading and interpreting the graph. Use ordered pairs to graph a function.
Addition of Integers	Add integers. Add integers within the context of a word problem.
Subtraction of Integers	Understand that subtracting an integer is the same as adding the opposite integer. Subtract integers within the context of a word problem. Subtract integers.
Multiplying and Dividing Integers	Apply rules of multiplying and dividing integers to expressions and word problems.
Evaluating Expressions	Evaluate expressions by substituting values for variables. Evaluate expressions in the set of integers using the order of operations.
Graphing	Name ordered pairs on a graph. Graph points in the coordinate plane. Find the value of a missing coordinate by using its graph. Complete a t-chart for a function rule and graph the function
One-Step Equations	Solve one-step equations in integers. Recognize equivalent expressions by using number properties.
Two-Step Equations	Solve two-step equations in the integers. Check solutions.
Problem Solving	Solve an equation and check for the reasonableness of the solution in the context of the problem. Write an equation to represent a word problem.
Review	Review solving one-step and two-step equations, with real numbers and integers.  Review operations of integers. Review translating contextual situations into one-step and two-step equations before solving them. Review identifying domains, ranges, independent variables, dependent variables, and inputs and outputs.  Review identifying relations and functions in their many forms, including ordered pairs, mapping diagrams, t-charts, and graphing.

# Pre-algebra

## Unit 3: MODELING PROBLEMS WITH RATIONAL NUMBERS

Lesson Title	Objective
Prime Factorization and the GCF	Determine the greatest common factor using prime factorization. Express the prime factorization of composite numbers and terms in exponential form. Solve problems by applying the greatest common factor.
Simplifying Fractions	Reduce fractions with variables. Reduce positive and negative fractions.
The LCM and the LCD	Find the least common multiple (LCM) of two or more terms. Find the least common denominator (LCD) of two or more fractions.
Adding and Subtracting Like Fractions	Convert between improper fractions and mixed numbers. Add and subtract fractions that have variables. Add and subtract fractions and mixed numbers with like denominators.
Adding and Subtracting Unlike Fractions	Add and subtract fractions with variables. Add and subtract fractions with unlike denominators.
Adding and Subtracting Decimal Numbers	Use estimation to predict results and check answers. Subtract positive and negative decimal numbers. Add positive and negative decimal numbers.
Multiplying and Dividing Fractions	Multiply and divide positive and negative fractions and mixed numbers. Solve word problems that require the multiplication and division of fractions and mixed numbers. Use estimation and rounding to check for the reasonableness of an answer.
Multiplying and Dividing Decimal Numbers	Multiply and divide positive and negative decimal numbers. Solve word problems that require the multiplication or division of decimal numbers. Use estimation and rounding to check for the reasonableness of an answer.
One-Step Addition and Subtraction Equations	Check solutions in equations and determine their reasonableness by estimating.  Write and solve one-step addition and subtraction equations involving fractions and decimals.
One-Step Multiplication and Division Equations	Write and solve one-step multiplication and division equations involving fractions and decimals. Check solutions in equations and determine their reasonableness by estimating.
Two-Step Equations	Solve one and two-step equations involving decimal and fractional values. Check solutions by using estimation.
One-Step Inequalities	Graph the solution of an inequality on the number line. Write an inequality to represent and solve a word problem. Solve one-step inequalities.
Two-Step Inequalities	Graph the solution set of an inequality on the number line. Write an inequality to represent and solve a word problem. Solve two-step inequalities.
Review	Review solving one-step and two-step equations with real numbers. Review solving one-step and two-step inequalities with real numbers. Review prime factorization of numbers and finding greatest common factors and least common multiples. Review operations involving positive and negative fractions and decimals. Review graphing inequalities on a number line.

# Pre-algebra

## Unit 4: PROPORTIONAL REASONING

Lesson Title	Objective
Proportions	Determine if an equation is a proportion. Write ratios and proportions. Solve for a missing value in a proportion.
Applications	Determine unit rate or unit price. Use proportional reasoning to solve problems.
Direct Variation	Use the constant of variation to determine the equation of a direct variation. Recognize a relationship as a direct variation. Calculate a missing value in a direct variation problem. Calculate the constant of variation.
Fraction, Percent and Decimal Equivalents	Convert between fractions, decimals, and percents. Compare and order fractions, decimals, and percents.
Solving Percent Problems	Determine if the answer to a percent problem is reasonable. Calculate the missing value in a percent problem.
Applications	Solve a word problem involving percents. Write an equation to represent a word problem involving percents.
More Applications	Solve multi-step word problems involving percents. Find percent increase or percent decrease in a word problem.
Unit Conversion within Customary Units	Convert customary units. Solve problems that require unit conversions of measurements.
Unit Conversion within Metric Units	Convert metric units.
Corresponding Parts	Identify congruent figures and their corresponding parts. Identify similar figures. Solve for a missing measure in similar figures.
Indirect Measure	Identify similar triangles in diagrams involving overlapping triangles. Draw a picture to model and then solve a word problem involving similar triangles.
Models and Scales	Determine the scale between a model and actual object. Calculate a missing measure using a scale.
Project: Proportional Reasoning	Draw an enlargement of a comic using a preset scale.
Alternate Project: Proportional Reasoning	Make an enlargement or reduction of your hand and determine the scale factor. Draw an enlargement of a comic using a preset scale.
Review	Review converting metric units. Review converting and comparing fractions, decimals, and percents. Review using similar figures to solve for a missing measure and to measure indirectly. Review using proportions to solve for a missing value. Review converting customary units. Review direct variations. Review solving percent problems.

# Pre-algebra

## Unit 5: MORE WITH FUNCTIONS

Lesson Title	Objective
Rewriting Equations	Solve for a missing value in a formula. Rewrite formulas to solve for a specific variable.
Combine Like Terms	Identify like terms in an algebraic expression. Combine like terms in an algebraic expression.
Solving Equations by Combining Like Terms	Check answers for reasonableness. Solve equations that require combining like terms on one side of the equation. Write equations with like terms from a contextual situation.
Distributive Property	Use the distributive property to simplify algebraic expressions. Identify equivalent expressions.
Solving Equations with Distributive Property	Write equations with the distributive property from word problems. Solve equations using the distributive property to simplify. Check answers for reasonableness in context.
Slope	Identify the type of slope from a graph. Find the slope of a line on a graph. Find the slope of a line given two points.
Using Intercepts	Identify the x-intercept and the y-intercept of a line. Graph a line from its intercepts. Substitute values into the equation for a line to find the intercepts.
Slope-Intercept Form	Rearrange equations to put them in slope-intercept form. Identify equations in slope-intercept form.
More Slope-Intercept Form	Write an equation in slope-intercept form when given the slope and the intercept. Find the slope and the intercept to write an equation in slope-intercept form.
Non-Linear Functions	Identify a quadratic equation and an absolute value equation from graphs. Graph quadratic and absolute value functions from t-charts. Complete t-charts for quadratic and absolute value equations.
Patterns and Arithmetic Sequences	Find the common difference in an arithmetic sequence. Use a formula to calculate the nth term of an arithmetic sequence. Extend an arithmetic sequence. Determine if a sequence is arithmetic.
Geometric Sequences	Find the common ratio in a geometric sequence. Extend a geometric sequence. Determine if a sequence is geometric.
Exponential Sequences	Identify exponential growth from both an equation and a graph. Complete t-charts for exponential growth. Identify exponential decay from both an equation and a graph. Graph exponential functions, of both growth and decay.
Recursive Sequences	Extend a recursive sequence. Determine if a sequence is recursive.
Review	Review graphing a line, given the slope and/or intercepts. Review identifying the type of slope from a graph. Review solving multi-step equations that involve one or more of the following: distributive property, combining like terms, and equivalent expressions. Review graphing exponential functions. Review extending number sequences, including arithmetic, geometric, exponential, and recursive. Review solving literal equations. Review graphing quadratic and absolute value graphs. Review finding a slope from a graph, mathematically, or from an equation. Review finding intercepts. Review writing equations in slope-intercept form.

# Pre-algebra

## Unit 6: MEASUREMENT

Lesson Title	Objective
Classify and Measure Angles	Identify angles by their measure. Classify pairs of angles. Find the measure of an angle.
Perpendicular and Parallel Lines, Part 1	Find the measure of angles created by a transversal. Identify a transversal and the angles it creates. Identify lines as parallel, intersecting, or perpendicular.
Perpendicular and Parallel Lines, Part 2	Find the measure of the angles created by a transversal across parallel lines. Identify the relationships between angles created by a transversal across parallel lines.
Circles	Identify the parts of a circle. Classify angles of circles. Find the measures of arcs and angles of circles.
Classifying Polygons	Identify which figures are polygons. Identify the different parts of polygons (sides, vertexes, diagonals, interior angles, and exterior angles). Name a polygon from its properties. Classify polygons as regular or irregular. Classify polygons as concave or convex.
Interior and Exterior Measures of Polygons	Recognize the relationship that exists between the number of sides of a polygon and the sum of the measures of its interior angles. Find the interior angle measures of polygons. Find the exterior angle measures of polygons.
Classifying Triangles and the Triangle Inequality Theorem	Determine if three sides can create a triangle. Classify a triangle by its angles. Classify a triangle by its sides.
The Quadrilateral Family	Recognize the relationships among the different types of quadrilaterals. Identify the name of a quadrilateral by its properties.
Pythagorean Theorem, Part 1	Determine if 3 side lengths create a right triangle. Find the length of a leg using the Pythagorean theorem. Find the length of a hypotenuse using the Pythagorean theorem.
Pythagorean Theorem, Part 2	Write an equation to find the missing side of a right triangle. Solve a contextual problem using the Pythagorean theorem. Draw and label a right triangle from a contextual problem.
Review	Review classifying and measuring angles and lines. Review classifying polygons and finding measures of their interior and exterior angles. Review classifying quadrilaterals and the relationships among them. Review finding side lengths of right triangles using the Pythagorean theorem. Review identifying and finding measures of angles created by transversals. Review parts of circles and their measures. Review classifying triangles and the triangle inequality theorem.

# Pre-algebra

## Unit 7: PLANE GEOMETRY

Lesson Title	Objective
Perimeter and Circumference	Find unknown dimensions of a figure by solving algebraic equations. Find the circumference or perimeter of a figure. Estimate the circumference or perimeter of a figure.
Area of Parallelograms	Find a missing side length or height of a parallelogram. Calculate the area of a parallelogram. Classify parallelograms based on their properties.
Area of Triangles and Trapezoids	Find the area of a triangle or trapezoid. Use the area formulas to find a missing measure in a triangle or trapezoid.
Area of Circles	Use the area formula of a circle to find a missing measure.
Composite Figures	Recognize the common shapes that make up a composite figure. Determine the area of a composite figure using common area formulas.
Effects of Dimensional Changes	Determine how dimension changes affect the area and perimeter of a shape.
Symmetry	Determine if a shape has line symmetry or rotational symmetry. Identify lines of symmetry in shapes. Write equations of lines of symmetry for shapes in a coordinate plane.
Distance and Midpoint	Solve word problems using distance and midpoint. Find the midpoint between two points. Find the distance between two points.
Reflections	Identify lines of reflection in a picture and coordinate plane. Determine the coordinates of an image or pre-image across a line of reflection.
Translations	Use ordered-pair notation to determine a translation. Determine the coordinates of the image or pre-image in a translation. Identify a transformation as a reflection, translation, or rotation.
Tessellations	Know which regular polygons will tessellate. Identify a tessellation.
Rotations	Find the coordinates of an image that has been rotated $90^\circ$ , $180^\circ$ , or $270^\circ$ . Identify rotation in a picture.
Dilations	Find the coordinates of an image or pre-image point in a dilation. Determine whether a dilation is an enlargement or a reduction. Find the scale factor for a dilation.
Review	Review line and rotational symmetry. Review using the formulas for perimeter, circumference, or area to find a missing measure of a plane figure. Review finding the perimeter, circumference, or area of a plane figure. Review finding the distance and midpoint of two points on a number line or coordinate plane. Review the properties of parallelograms and trapezoids. Review how changes in dimension affect the perimeter or area of a plane figure. Review the four types of transformations and how to find the coordinates of an image or pre-image.

# Pre-algebra

## Unit 8: MEASURES OF SOLID FIGURES

Lesson Title	Objective
Solid Figures	Identify the net of a three-dimensional figure. Name a three-dimensional figure by its base(s). Classify a three-dimensional figure by its characteristics. Identify the number of faces, edges, and vertices for a figure.
Euler's Formula	Identify the relationship that exists among the number of faces, edges, and vertices of a solid figure. Determine the number of faces, lateral faces, edges, and vertices of each geometric solid.
Surface Area of Rectangular Prisms	Calculate the surface area of rectangular prisms using a net. Find a missing measure given the surface area. Calculate the surface area of rectangular prisms using its surface area formula.
Surface Area of Triangular Prisms	Find the surface area of a triangular prism using its net. Calculate the surface area of a triangular prism. Solve for a missing measure when given the surface area and other dimensions of a triangular prism.
Surface Area of Cylinders	Understand the derivation of the surface area formula for a cylinder. Find the length of the curved surface of a cylinder. Determine the surface area of a net of a cylinder. Calculate the surface area of a cylinder using its formula.
Surface Area of Pyramids, Cones, and Spheres	Calculate the surface area of a pyramid using the net of the figure. Find the surface area of a pyramid, a cone, and a sphere using formulas.
Surface Area of Composite Figures	Calculate the surface area of a composite figure. Identify the solids of a composite figure.
Volume of Rectangular Prisms	Find the volume of a rectangular prism. Find a missing dimension of a rectangular prism when given the volume and all but one of the other dimensions.
Volume of Triangular Prisms	Find the unknown measure of a triangular prism when given the volume and the other dimensions. Find the volume of a triangular prism.
Volume of Square Pyramids	Find the unknown measure of a square pyramid when given the volume and the other dimensions. Find the volume of a square pyramid.
Volume of Cylinders	Find a missing dimension when given the volume of a cylinder. Calculate the volume of a cylinder.
Volume of Cones	Define the relationship that exists between the volume of a cone and the volume of a cylinder with the same dimensions. Find a missing dimension of a cone when given the volume and the other dimension. Calculate the volume of a cone.
Volume of Spheres	Find the volume of spheres.
Changes to Volume	Find the new volume of a geometric solid after changes to the dimensions have been made. Determine how changes in dimensions affect a shape's volume.
Volume of Composite Figures	Find the volume of a composite figure.

# Pre-algebra

## Unit 8: MEASURES OF SOLID FIGURES, CONTINUED

Lesson Title	Objective
Review	Review Euler's formula. Review identifying geometric solids from net representations. Review calculating the volume of geometric solids and composite figures. Review identifying geometric solids from three-dimensional, pictorial representations. Review identifying the number of faces, bases, lateral faces, edges, and vertices for geometric solids. Review calculating the surface area of geometric solids and composite figures.

## Unit 9: DATA ANALYSIS

Lesson Title	Objective
Collecting Data	Interpret a tally chart to identify trends and make predictions about the general population. Identify a sample as biased or unbiased. Make predictions from a sample.
Measures of Central Tendency and Dispersion	Identify the mean, median, mode, and range for a set of data. Calculate the missing value of a data set when given the mean and the rest of the data set.
Bar Graphs	Construct a bar graph from a set of data. Interpret a bar graph.
Circle Graphs	Interpret a circle graph as parts of a whole. Construct a circle graph from a set of data. Compare quantities of a circle graph.
Line Graphs	Identify the parts of a line graph. Interpret line graphs.
Frequency and Histograms	Construct stem-and-leaf plots, frequency tables, and histograms from sets of data.
Constructing Box-and-Whisker Plots	Construct a box-and-whisker plot from a set of data. Identify the median and the quartiles of a set of data.
Interpreting Box-and-Whisker Plots	Identify the lower quartile, upper quartile, and the median from a box-and-whisker plot. Identify the extreme values of a set of data from a box-and-whisker plot. Interpret a box-and-whisker plot.
Scatter Plots	Identify a line of best fit for a scatter plot. Interpret a scatter plot. Classify a trend/correlation on a scatter plot.
Misleading Graphs	Identify how a graph is misleading. Identify the changes needed to correct a misleading graph.
Appropriate Displays	Identify types of data. Choose the correct graph to display information.
Review	Review bar graphs, circle graphs, line graphs, stem-and-leaf plots, histograms, box-and-whisker plots, and scatter plots. Review the various types of samples. Review the two types of data. Review how graphs can be misleading. Review the measures of central tendency and dispersion. Review how to determine the appropriate data display for a given set of data.

# Pre-algebra

## Unit 10: PROBABILITY

Lesson Title	Objective
Tree Diagrams and the Counting Principle	Identify all the possible outcomes for a given situation. Use tree diagrams to identify probabilities. Use the counting principle to identify probabilities.
Permutations	Use permutations to count all possible outcomes.
Combinations	Use combinations to count all possible outcomes.
Mixed Review of Outcomes	Use the permutation formula to determine the total possible outcomes. Identify if a problem involves combinations or permutations. Use the combination formula to determine the total possible outcomes.
Probability and Odds	Define theoretical probability, fairness, and odds. Find probability and odds for given situations.
Experimental vs Theoretical Probability	Use experimental probability to make predictions about future trials. Find the experimental probability of an event. Use the theoretical probability to predict experimental probability.
Disjointed and Overlapping Events	Find the probability of an overlapping event. Find the probability of a disjointed event.
Independent and Dependent Events	Find the probability of dependent events. Identify if events are independent or dependent. Find the probability of independent events.
Simulate a Problem	Use a simulation to determine the experimental probability of a problem. Compare and contrast the theoretical probability with the experimental probability.
Quest: All That's Fair In...	Calculate the experimental probability of an event. Determine if a game is fair. Create a game that is fair. Calculate the theoretical probability of an event.
Review	Review finding theoretical and experimental probabilities. Review identifying and computing probabilities of overlapping and disjointed events. Review determining the number of possible outcomes using tree diagrams and the fundamental counting principle. Review identifying and computing probabilities of independent and dependent events. Review identifying and evaluating permutation and combination problems.

## Unit 11: COURSE REVIEW AND EXAM

Lesson Title	Objective
Review I	Review using proportions to solve problems. Review properties of the real number system. Review translating, solving, and graphing functions, equations, and inequalities.
Review II	Review probability. Review using algebraic properties to solve geometry and measurement problems. Review ways to analyze and display information.

# Algebra I

## Unit 1: FOUNDATIONS OF ALGEBRA

Lesson Title	Objective
Variables and Expressions	Identify a variable expression and its components: variable, coefficient, constant. Translate expressions written as English phrases into algebraic expressions. Interpret an algebraic expression.
Exponents and Order of Operations	Simplify mathematical expressions using the order of operations. Simplify mathematical expressions containing exponents.
Evaluating Expressions	Evaluate algebraic expressions for given values of the variables.
Classifying and Comparing Numbers	Name the additive inverse of a given number. Classify a real number as natural (counting), whole, integer, rational, or irrational.  Compare and order real numbers and graph them on the number line.
Decimal-Fraction Conversions	Convert terminating decimals to fractions. Convert repeating decimals to fractions.
Fractions	Perform operations with fractions. Perform operations with decimal numbers. Round decimal numbers to a specified place value. Identify the additive identity and multiplicative inverse of a number.
Adding and Subtracting Signed Numbers	Add signed numbers. Subtract signed numbers.
Multiplying and Dividing Signed Numbers	Multiply signed numbers. Divide signed numbers.
Absolute Value	Evaluate expressions containing absolute value symbols.
Commutative and Associative Properties	Use real number properties to simplify algebraic expressions. Identify the commutative and associative properties of addition and multiplication.
Distributive Property	Identify the distributive property. Use the distributive property to simplify algebraic expressions.
Simplifying Expressions	Simplify algebraic expressions by removing parentheses and combining like terms.
Review	Review properties of real numbers. Review simplifying numerical expressions. Review operations with real numbers. Review evaluating algebraic expressions. Review simplifying algebraic expressions. Review comparing and ordering real numbers. Review absolute value.

# Algebra I

## Unit 2: LINEAR EQUATIONS

Lesson Title	Objective
Open Sentences	Translate sentences into algebraic equations. Simplify algebraic expressions using properties of zero and one.
Addition Property of Equality	Use the addition property of equality to solve word problems. Use the addition property of equality to solve equations.
Multiplication Property of Equality	Use the multiplication property of equality to solve word problems. Use the multiplication property of equality to solve equations.
Two-Step Equations	Solve two-step equations by using both the addition and multiplication properties of equality.
Variables on Both Sides	Solve multi-step equations that have the variable term on both sides.
Combining Like Terms	Solve multi-step equations by combining like terms on one or both sides of the equation first.
The Distributive Property	Solve multi-step equations.
Literal Equations	Solve a literal equation for a specified variable.
Writing Equations from Word Problems	Solve word problems with one unknown by writing and solving an equation.
Two Unknowns	Solve a word problem by writing and solving a related equation. Write an equation to represent a word problem.
More than Two Unknowns	Solve word problems with more than two unknowns using an equation. Express one unknown in terms of another for a word problem.
Using a Chart	Solve word problems by writing and solving a related equation.
Percent Problems	Solve percent problems. Calculate percent increase and decrease. Convert between fractions, decimals, and percents.
Mixture and Interest Problems	Write an equation to represent a mixture word problem. Solve investment word problems. Write an equation to represent an investment word problem. Solve mixture word problems.
Review	Review how to write equations to represent problems. Review how to solve equations. Review how to solve percent problems. Review how to solve a literal equation for a specified variable.

# Algebra I

## Unit 3: FUNCTIONS

Lesson Title	Objective
The Coordinate Plane	Write an equation to express a relationship between coordinates in the plane. Identify the axes, origin, and quadrants in the coordinate plane. Identify and plot points in the coordinate plane. Identify the quadrant in which a point lies in the coordinate plane.
Identifying Functions	Identify the domain and range of a relation. Identify a function from a set of ordered pairs, a table, a mapping, or a graph.
Function Notation	Evaluate a function for a value of the dependent variable using a function rule, graph, or table. Find the value of the independent variable of a function given the dependent variable.
Modeling Functions	Identify the graph of a function that models a real life relationship. Graph a function from its equation.
Writing a Function Rule	Write a function rule to represent a real-world problem. Write a function rule from a given set of ordered pairs or graph.
Arithmetic Sequences	Find the $n$ th term of an arithmetic sequence. Extend an arithmetic sequence. Identify an arithmetic sequence. Find the common difference of an arithmetic sequence.
Direct Variation	Solve a word problem involving a direct variation. Determine the constant of variation of a direct variation. Identify a function as being a direct variation. Write the equation of a direct variation.
Slope	Given two points on a line, calculate the slope using the slope formula. Use the graph of a line to determine if the slope is positive, negative, zero, or undefined (no slope). Use the graph of a line to determine the slope.
Linear Equations	Graph a linear equation by finding solutions of the equation. Find the $x$ - and $y$ -intercepts of a line. Determine if an equation is linear. Write a linear equation in general form. Write a linear equation from a word sentence.
Slope-Intercept Form	Graph a line using the slope and $y$ -intercept. Write a linear equation in slope-intercept form. Identify the slope and $y$ -intercept of a line from the given equation.
Absolute Value Functions	Describe how the graph of $ x $ is translated in the coordinate plane based on the equation. Identify the graph of an absolute value function in the form $y =  x  + c$ . Identify the graph of an absolute value function in the form $y =  x + c $ .
Writing Linear Equations (1)	Write the equation of a line given the slope and $y$ -intercept. Write the equation of a line given the graph. Write the equation of a line given the $y$ -intercept and another point on the line.
Writing Linear Equations (2)	Write the equation of a line given the slope and a point on the line that is not the $y$ -intercept. □ Write the equation of a line given two points on the line where neither is the $y$ -intercept.
Writing Linear Equations (3)	Write the equation of a line perpendicular to a given line. Find the slope of a line perpendicular to a given line. Find the slope of a line parallel to a given line. Write the equation of a line parallel to a given line.

# Algebra I

## Unit 3: FUNCTIONS, CONTINUED

Lesson Title	Objective
Review	Review what a function is, as well as how to read, write, and evaluate function notation. Review graphing and writing linear equations. Review the coordinate plane and how functions are modeled in the plane. Review how to use translations to graph absolute value equations of the form $y =  x  + c$ and $y =  x - c $ . Review arithmetic sequences and how to find the $n$ th term.

## Unit 4: INEQUALITIES

Lesson Title	Objective
Graphing	Use set builder notation to express a set. Identify and determine the number of subsets of a set. Write the set that is represented by a graph. Write a set using the listing or rule method. Graph a set of numbers on the number line.
Addition Property of Inequality	Solve an inequality using the addition property of inequality. Graph the solution set of an inequality. Determine if a value is a solution of an inequality.
Multiplication Property of Inequality	Solve an inequality using the multiplication property of inequality.
Multi-Step Inequalities	Solve multi-step inequalities.
Problem Solving	Solve word problems using an inequality. Translate phrases into inequality statements.
Compound Inequality Graphs	State the union of two sets. State the intersection of two sets. Graph a compound inequality. Write a compound inequality as a union or intersection.
Solving Compound Inequalities	Graph the solution set of a compound inequality. Solve a compound inequality.
Inequalities with Two Variables	Graph a linear inequality in the coordinate plane.
Absolute Value Solution Sets	State and graph the solution sets of absolute value equations of the form $ x  > c$ , $ x  < c$ , $ x  \geq c$ , and $ x  \leq c$ , where $c$ is a constant. State and graph the solution set of absolute value equations of the form $ x + a  = c$ , where $a$ and $c$ are constants.
Absolute Value Inequalities with One Variable	Solve and graph the solution sets of absolute value equations.  Solve and graph the solution sets of absolute value inequalities.
Absolute Value Inequalities with Two Variables	Graph the solution sets of absolute value inequalities in the coordinate plane.
Review	Review how to solve and graph compound inequalities. Review how to solve inequalities using properties of inequality. Review how to graph two-variable inequalities in the coordinate plane. Review how to solve and graph one- and two-variable absolute value inequalities.  Review how to state solution sets using set notation.

# Algebra I

## Unit 5: LINEAR SYSTEMS

Lesson Title	Objective
Solution of a System	Identify a solution of a linear system graphically. Identify if a linear system is consistent, inconsistent, or equivalent. Determine the number of solutions of a linear system.
Graphing Systems of Equations	Determine if a point is a solution of a system of linear equations. Determine the solution set of a linear system graphically.
Systems of Inequalities	Determine if a point lies in the solution set of a system of linear inequalities. Graph the solution set for a system of linear inequalities.
Substitution Method	Determine if an ordered pair is a solution of a system of two linear equations. Solve a system of two linear equations by the substitution method.
Addition Method	Determine if an ordered pair is a solution of a system of two linear equations. Solve a system of two linear equations using the addition method.
Matrices	Solve a system of two linear equations algebraically using determinants. Find the system determinant, x determinant, and y determinant for a system of two linear equations. Write a system matrix for a linear system with two equations. Find the determinant of a $2 \times 2$ matrix.
Fractional Coefficients	Solve systems of equations containing fractional coefficients. Identify a solution to a system of equations.
Using Two Variables	Write a system of linear equations to represent a word problem. Use a system of linear equations to solve a word problem.
Money and Unit Pricing	Write a system of equations to represent coin and pricing problems. Solve a system of equations to represent coin and pricing problems.
Using Formulas	Represent word problems involving formulas using a system of equations. Solve word problems involving formulas using a system of equations.
Review	Review how to apply systems of equations to solve word problems. Review what a solution to a system is and when a system has no, one, or infinite solutions. Review solving linear systems algebraically by substitution, elimination, or determinants. Review solving linear systems graphically.

## Unit 6: SEMESTER REVIEW AND EXAM

Lesson Title	Objective
Review	Review and reinforce algebraic concepts from Units 1-5 in preparation for the semester exam.

# Algebra I

## Unit 7: POLYNOMIALS

Lesson Title	Objective
Adding and Subtracting Polynomials	Subtract polynomials using a vertical format. Add polynomials using a vertical format. Write a polynomial in descending order. Recognize a polynomial and the number of terms it has.
Grouping Symbols	Subtract polynomials using a horizontal format. Add polynomials using a horizontal format.
Multiplying by a Monomial	Multiply monomials. Multiply any polynomial by a monomial.
Multiplying Polynomials	Multiply polynomials with more than one term.
F.O.I.L. and Special Cases	Use shortcuts for squaring a binomial and finding the difference of two squares. Find products of binomials using the FOIL method.
Dividing by a Monomial	Divide polynomials with more than one term by a monomial. Divide monomials by monomials.
Long Division	Divide polynomials using long division. Check the answer to a division problem with polynomials.
Greatest Common Factor	Use prime factorization to find the greatest common factor of two or more whole numbers. Find the greatest common factor of two or more monomials. Find the greatest common factor of a polynomial.
Factoring Out the GCF	Check the factorization of a polynomial. Factor out the GCF of a polynomial.
Factoring by Grouping	Check the factorization of a polynomial. Factor four-term polynomials by grouping.
Factoring Trinomials (1)	Check the factorization of a polynomial. Factor trinomials with leading coefficients of one into a product of binomials.
Factoring Trinomials (2)	Check the factorization of a polynomial. Factor trinomials with leading coefficients other than one into a product of binomials.
Special Cases	Factor the difference of two perfect squares. Factor perfect square trinomials. Check the factorization of a polynomial.
Complete Factorization	Check the factorization of a polynomial. Factor a polynomial into prime factors.
Review	Review simplifying polynomial expressions. Review operations on polynomials. Review factoring.

# Algebra I

## Unit 8: EXPONENTIAL AND RADICAL FUNCTIONS

Lesson Title	Objective
Negative Exponents	Evaluate and simplify expressions with zero and negative exponents.
Exponential Expressions	Evaluate algebraic expressions containing integer exponents.
Scientific Notation	Convert between numbers in standard form and scientific notation.
Multiplication	Use the multiplication property of exponents to simplify products.
Raising to a Power	Simplify powers of products using the rule of exponents. Simplify a power raised to a power using the rule of exponents.
Division	Simplify quotients of powers using the rule of exponents.
Geometric Sequences	Find the $n$ th term of a geometric sequence. Identify a geometric sequence. Extend a geometric sequence. Find the common ratio of a geometric sequence.
Simplifying Radicals	Simplify radicals having perfect $n$ th root radicands.
Multiplying Radicals	Simplify square roots that have a perfect square factor. Multiply radicals with the same index.
Dividing Radicals	Divide like radicals. Rationalize a fraction. Simplify radicals with fractional radicands.
Adding and Subtracting Radicals	Add and subtract radical expressions.
Radical Equations	Solve equations with irrational solutions. Solve radical equations. Determine if a value is a solution of a radical equation.
Review	Review simplifying algebraic expressions that involve exponents. Review operations with radical expressions. Review simplifying radicals. Review the rules for exponents. Review solving equations with irrational roots and radical equations. Review solving radical equations.

# Algebra I

## Unit 9: QUADRATICS

Lesson Title	Objective
Pythagorean Theorem	Use the Pythagorean theorem to find the missing length of a side of a right triangle. Determine if the given sides form a right triangle. Apply the Pythagorean theorem to real life problems.
Distance	Determine if a point lies on a circle with center at the origin. Write the equation of a circle whose center is at the origin. Find the distance between two points.
Midpoint	Find the coordinates of the midpoint of a line segment given the endpoints. Find the center of a circle given the endpoints of a diameter.
Quadratic Functions	Write a quadratic equation in general form. Identify the solutions of a quadratic equation from the related parabola. Identify a quadratic equation. Find ordered pairs on the graph of a quadratic function.
Transformations	Use translations and reflections of the graph of $y = x^2$ ; to graph parabolas whose equations are in standard form. Identify the vertex of a parabola from a given equation in standard form. Write the standard form of a quadratic equation from the given graph.
Line of Symmetry	Graph a parabola whose equation is in general form, $y = ax^2 + bx + c$ . Determine the line of symmetry and vertex of a parabola whose equation is in general form, $y = ax^2 + bx + c$ .
Quadratic Inequalities	Identify the solution set of a quadratic inequality. Graph the solution set of a quadratic inequality. Determine if a point is a solution of a quadratic inequality.
Solving by Factoring	Solve quadratic equations by factoring.
Square Root Method	Solve quadratic equations using the square root method.
Applications of Quadratics	Solve word problems by writing quadratic equations.
Completing the Square	Solve quadratic equations by completing the square. Solve quadratic equations by completing the square.
Quadratic Formula (1)	Use the quadratic formula to solve quadratic equations having rational roots.
Quadratic Formula (2)	Use the quadratic formula to solve quadratic equations having irrational roots.
Review	Review solving word problems by writing and solving a quadratic equation. Review the Pythagorean theorem. Review the midpoint formula. Review the distance formula and the equation of a circle whose center is at $(0, 0)$ . Review solving quadratic equations. Review graphing quadratic functions.

# Algebra I

## Unit 10: RATIONAL EXPRESSIONS

Lesson Title	Objective
Simplifying Rational Expressions	Reduce rational expressions. Determine the excluded values of a rational expression.
Multiplying and Dividing Rational Expressions	Multiply rational expressions. Divide rational expressions.
Adding and Subtracting with Like Denominators	Add fractions that have a common denominator. Subtract fractions that have a common denominator.
Adding and Subtracting with Unlike Denominators	Determine the lowest common denominator of rational expressions. Add rational expressions with unlike denominators.
Proportions	Solve proportions.
Using the LCD	Solve equations containing rational expressions by clearing fractions.
Complex Fractions	Simplify complex fractions.
Inequalities	Solve inequalities containing rational expressions with variables in the numerators.
Applications of Rational Equations	Solve work and pipe flow problems. Solve time, distance, and rate problems using rational equations. Solve mixture problems using rational equations.
More Problems	Solve word problems by writing and solving rational equations.
Review	Review how to perform operations with rational expressions. Review how to write a rational expression in simplest form, including complex fractions. (Reduce.) Review finding excluded values of rational expressions. Review how to solve equations and inequalities containing rational expressions.  Review how to solve word problems using an equation.

# Algebra I

## Unit 11: PROBABILITY AND STATISTICS

Lesson Title	Objective
Measures of Central Tendency	Interpret a stem-and-leaf plot. Interpret a frequency table. Find the mean, median, and mode of a given set of data. Determine if a sample is good.
Dispersion	Identify outliers of a data set and determine how they affect a measure of central tendency. Find the range and inter-quartile range of a given data set. Calculate quartiles of a data set. Interpret data presented in a histogram or box-and-whisker plot.
Interpreting Data	Make predictions from a graph. Interpret data displayed in a graph.
Project: Data Analysis	Collect, organize, and analyze data. Make predictions based on data.
Sampling and Outcomes	Determine the number of outcomes, or sample space, of an event using the multiplication principle. Determine the outcomes, or sample space, of an event using a table or a tree diagram.
Permutations	Evaluate and apply the permutation formula. Determine the number of arrangements in an event. Evaluate numeric expressions containing factorial notation.
Combinations	Evaluate and apply the combination formula.
Probability	Determine the theoretical probability of a single event.
Compound Events	Determine the theoretical probability of compound events.
Project: Probability	Collect and organize data. Calculate probabilities based on data. Use measures of central tendency to persuade.
Review	Review the interpretation of graphs such as box-and-whisker plots and scatter plots. Review statistical measurements for central tendency and dispersion. Review ways of determining outcomes of an event. Review how statistics can be misleading.

## Unit 12: SEMESTER REVIEW AND EXAM

Lesson Title	Objective
Review	Review and reinforce algebraic concepts from Units 7-11 in preparation for the semester exam.