MATH 300

Unit Number and Title	Lesson Title	Lesson Objectives
1 WHOLE NUMBERS		
L1	Patterns: Digits and Number Words	Review number order Review reading and writing numbers Review reading and writing number words
L2	Place Value	Review place value for ones and tens Use zero as a placeholder
L3	Single-Digit Addition	Practice addition facts
L4	Single-Digit Subtraction	Practice subtraction facts
L5	Addition Problems	Practice two-digit addition
L6	Subtraction Problems	Practice two-digit subtraction
L7	Numbers on a Number Line	Use mental math to add and subtract
L8	Pattern for Expanded Notation	Practice number order Write numbers in expanded notation form
L9	Adding Multi-digit Numbers	Add three-digit numbers Add numbers in a column
L10	Subtracting 3-Digit Numbers	Subtract three-digit numbers
L11	Measurement	Identify units of measure Measure with a ruler and yardstick
L12	Operation Symbols	Identify operation symbols to solve number sentences
L13	Adding with Carrying	Add two-digit numbers with carrying
L14	Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers
L15	Standard Measurement for Time	Tell time using a face clock
L16	Calendar Time	Measure time on a calendar
L17	Unit Concept Review 1	Review addition and subtraction Review operation symbols
L18	Unit Concept Review 2	Review digits, measurement, and time
L19	Practice: Addition and Subtraction	Review and practice addition with carrying Review and practice subtraction with borrowing
2 NUMBER PATTERNS		
L1	Family of Facts	Create addition and subtraction fact families
L2	Adding Ones, Tens, and Hundreds	Add two and three-digit numbers with and without carrying
L3	Subtracting Ones, Tens, and Hundreds	Subtract two and three-digit numbers without borrowing
L4	Place Value and Number Words	Identify place value to the hundreds place
L5	Addition with Carrying	Add three-digit numbers with carrying
L6	Skip Counting and Number Words	Practice reading and writing number words Practice skip counting Add numbers using mental math
L7	Skip Counting and Addition with Carrying	Find odd and even number patterns Practice addition with carrying
L8	Fractions	Identify fractions from pictures Read and write fractions

L9	Subtracting with Borrowing	Practice subtraction with borrowing
L10	Shapes	Identify flat and solid shapes
L11	Money	Count coins Find the total value of sets of coins
L12	Review: Borrowing	Review and practice subtraction with borrowing
L13	Addition: Checking Answers	Check addition problems
L14	Subtraction: Checking Answers	Check subtraction problems
L15	Review: Number Order and Place Value	Review number order Review place value Review expanded notation
L16	Review: Addition and Subtraction Facts	Review and practice addition and subtraction facts
3 WHOLE NUMBERS AND FRACTIONS		
L1	Fact Families, Mental Math, and Addition	Create addition and subtraction fact families Practice addition
L2	Column Addition	Add a column of three numbers, with and without carrying
L3	Addition: With and Without Carrying	Practice addition with and without carrying
L4	Measurements: Weight and Volume	Identify standard units of measure for weight Identify standard units of measure for height
L5	Fact Family, Place Value, and Number Order	Review fact families Review number order Review place value
L6	Checking Addition Problems	Review and practice checking addition
L7	More Checking Addition Problems	Practice checking addition problems with and without carrying
L8	Subtraction with Borrowing	Subtract with regrouping from the tens and hundreds place
L9	Number Sentences and Symbols	Use math symbols to solve number sentences
L10	Subtraction with Borrowing and Checking	Practice checking subtraction problems with and without borrowing
L11	Fractions	Identify and write fractions
L12	Fractions - Continued	Identify and write fractions
L13	Addition Practice	Practice addition with carrying
L14	Time: AM and PM	Identify a.m. and p.m. when telling time
L15	Review: Addition, Subtraction, and Money	Review checking addition and subtraction Review counting and writing money Review fact families
L16	Review: Story Problems, Lines, Shapes, and Measurement	Review lines and shapes Review units of measurement for time and distance Review story problems

4 PLACE VALUE		
L1	Numbers to Thousands Place	Identify place value to the thousands place
L2	Addition and Skip Counting	Practice addition with sums to the thousands place Review skip counting
L3	Rounding and Estimation	Practice rounding to the tens place Use rounding to estimate answers
L4	Subtraction with Borrowing	Practice subtraction with borrowing
L5	Measurement	Identify standard units of measurement for weight, volume, time, and distance
L6	Number Words and Place Value	Practice writing number words Create fact families Review place value to the thousands place
L7	Number Patterns	Identify number patterns Practice number order
L8	Addition and Subtraction: Horizontal Form	Add and subtract problems written horizontally
L9	Adding and Subtracting Fractions	Add and subtract fractions with like denominators
L10	Roman Numerals	Identify numbers using the Roman numeral system
L11	Review: Subtraction with Borrowing	Practice subtraction with borrowing
L12	Review: Fractions	Identify fractions Practice reading and writing fractions
L13	Review: Word Problems and Money	Practice solving word problems Practice counting coins
5 MEASUREMENT, SHAPES, AND REVIEW		
L1	Operation Symbols and Number Sense	Use operation symbols to write number sentences Review place value and number sense
L2	Multi-Digit Addition And Subtraction	Practice addition with carrying Practice subtraction with borrowing
L3	Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers in whole numbers Identify cardinal and ordinal numbers in fractions
L4	Number Patterns Using Place Value	Identify place value to the thousands place Identify number patterns
L5	Measuring Temperature	Identify boiling point of liquid Identify freezing point of liquid Find information on a graph
L6	Operation Symbols	Use operation signs to solve number sentences
L7	Shapes and Symmetry	Identify plane and solid shapes Identify lines of symmetry
L8	Rounding and Estimating	Use rounding to find estimates
L9	Finding Perimeter	Find the perimeter of shapes
L10	Multi-Digit Addition and Subtraction	Add and subtract vertically and horizontally Solve problems using mental math
L11	Odd And Even Numbers	Identify odd and even numbers

L12	Review: Checking Addition	Practice checking addition problems
L13	Review: Checking Subtraction	Practice checking subtraction problems
L14	Review: Roman Numerals and Fractions	Identify and convert Roman numerals
L15	Review: Multiple Concepts	Review the following concepts: Number patterns and number order Roman numerals Addition and subtraction facts Measuring money and time Rounding and estimation
L16	Review: Story Problems	Practice solving word problems
6 MULTIPLICATION, ADDITION, AND SUBTRACTION		
L1	Multi-Digit Addition	Practice multi-digit addition with and without carrying
L2	Skip Counting and Multiplication	Multiply using skip counting
L3	Review: Telling Time	Practice telling time
L4	Review: Subtraction	Practice subtraction with and without borrowing
L5	Perimeter and Area	Find the perimeter and area of shapes
L6	Review: Fractions	Add and subtract fractions
L7	Addition and Equivalent Fractions	Practice addition Identify equivalent fractions using pictures
L8	Money Computation and Roman Numerals	Add and subtract amounts of money Review Roman numerals
L9	Multiplication	Use skip counting to multiply Memorize multiplication facts for 1's, 2's, and 3's
L10	Lines, Angles, and Temperature	Identify lines and angles Identify endpoints and line segments Practice reading a thermometer
L11	Review: Addition and Subtraction	Review and practice addition and subtraction
L12	Story Problems	Practice solving story problems
L13	Multiple Concept Review	Review the following concepts: Fractions Shapes Even and odd numbers Roman numerals Place value
L14	Review: Calendar	Review units of time on a calendar Find information on a calendar
7 OPERATIONS, LIKELIHOOD, AND PROBABILITY		
L1	Review: Place Value	Review place value of multi-digit numbers
L2	Review: Subtraction with Borrowing	Review and practice subtraction with borrowing
L3	Multiplication Facts	Practice multiplication facts for 1's, 2's, 3's, 5's, and 6's
L4	Measurement	Find perimeter and area Practice using standard units of measure
L5	Practicing Subtraction with Borrowing	Practice subtraction, including regrouping with zeros
L6	Mixed Numbers	Identify mixed numbers Read and write mixed numbers Add and subtract mixed numbers

L7	Review: Expanded Notation and Roman Numerals	Write numbers in their expanded form Review Roman numerals
L8	Probability and Likelihood	Predict probability and likelihood
L9	Math Facts	Practice math facts Solve number sentences
L10	Symmetry	Identify the line of symmetry in figures
L11	Review: Money	Solve problems using money
L12	Multiplication Facts	Learn the multiplication facts for 7's and 8's Review and memorize multiplication facts for 2's and 5's
L13	Multiple Concept Review	Review the following concepts: Story problems Graphs Fact families Fractions and multiplication Lines and angles Measurement Place value

8 MEASUREMENT, FRACTIONS, AND DECIMALS

L1	Shapes, Measurement, and Addition	Identify flat and solid shapes Convert and add measurements Practice checking addition and subtraction
L2	Time and Measurement	Solve problems using a calendar Review number order Practice mental math
L3	Fractions, Odd and Even Number Patterns	Review fraction words Identify even and odd number patterns
L4	Decimals	Read and write decimals
L5	Money Problems	Solve story problems using money Review and practice estimation and rounding
L6	Fractions, Place Value, and Measurement	Write numbers in expanded form Practice place value Measure to the 1/4 inch using a ruler Add mixed numbers
L7	Directions	Identify north, south, east, and west on a grid Locate points using directions on a grid
L8	Multiplication Facts	Practice memorizing multiplication facts for 3's and 4's Practice memorizing multiplication facts for 8's and 9's
L9	Multiple Concept Practice	Review multiplication facts Review fractions Review Roman numerals Review number relation symbols
L10	Review: Addition With Checking	Practice addition with checking
L11	Word Problems	Solve word problems

L12	Using Graphs	Find data using bar and line graphs Find data using circle and picture graphs Practice finding perimeter and area
9 REVIEW: MULTIPLE CONCEPTS		
L1	How Numbers Work	Identify number patterns Use number symbols to solve number sentences Write numbers in expanded form
L2	Math Facts	Practice basic math facts Check your own subtraction work
L3	Add/Subtract with Checking	Check your own addition work
L4	Multiplication	Memorize multiplication facts for 1's, 2's, 3's, 4's, and 5's
L5	Equivalent Fractions	Identify equivalent fractions
L6	Reading and Writing Fractions	Read and write fractions
L7	Fraction Computation	Add and subtract fractions and mixed numbers
L8	Measure: Length, Perimeter, and Area	Identify customary units of length Find the perimeter of a shape Find the area of a shape
L9	Measure: Money, Time, and Temperature	Identify and count coins Tell time using a face and digital clock Read temperatures on a thermometer
L10	Measure: Weight and Volume	Identify standard units of weight Identify standard units of volume
L11	Symmetry and Shapes	Place a line of symmetry on pictures Identify lines, and plane and solid shapes
L12	Roman Numerals	Identify Roman numerals Convert Arabic and Roman numerals
L13	Likelihood and Graphing	Determine if events are likely, or probable Graph information on bar, line, picture, and circle graphs
L14	Problem Solving	Solve problems written in words
10 BASIC MATH REVIEW		
L1	Review: Rounding and Estimation	Review rounding to the tens, hundreds, and thousands place Use rounding to estimate answers
L2	Review: Adding Fractions	Practice adding fractions
L3	Review: Subtracting Fractions	Practice subtracting fractions
L4	Review: Multiplication Facts	Practice multiplication facts from memory
L5	Review: Mental Math, Graphs, Likelihood	Solving number sentences using mental math Identify information on a circle graph Determine likelihood and probability
L6	Review: Addition and Subtraction Computation	Identify the parts of addition and subtraction problems Practice adding and subtracting
L7	Review: Fractions and Decimals	Identify equivalent fractions from pictures Identify fractions and decimals

L8	Review: Add and Subtract Mixed Numbers and Fractions	Add and subtract fractions Add and subtract mixed numbers
L9	Review: Finding Missing Numbers	Solve problems with missing numbers Solve problems with missing number symbols
L10	Review: Shapes and Symmetry	Identify plane and solid shapes Identify a line of symmetry
L11	Review: Roman Numerals	Convert Arabic and Roman numerals
L12	Review: Measurement	Identify standard units of measure including: Time Length Weight Volume Dozens
L13	Review: Number Symbols and Grouping	Solve equations using operation and number relation words Solve equations using parentheses to group numbers
L14	Review: Perimeter and Area	Find the area of figures Find the perimeter of figures
L15	Review: Problem Solving	Solve problems on the following concepts: Addition, subtraction, and multiplication Measurement Number patterns Directions Calendar skills Cardinal and ordinal numbers Fractions

MATH 400

Unit Number and Title	Lesson Title	Lesson Objectives
1 NUMBER SENSE AND PLACE VALUE		
L1	Place Value to 1,000s	Review digits Review place value
L2	Single-Digit Addition	Review single-digit addition Practice addition facts
L3	Single-Digit Subtraction	Review subtraction Practice subtraction facts
L4	Multi-Digit Addition	Review multi-digit addition with regrouping
L5	Multi-Digit Subtraction	Review multi-digit subtraction with regrouping
L6	Review Place Value to 1,000s	Review place value to the thousands place Write numbers in expanded notation
L7	Multiplication Facts	Review the multiplication process Practice multiplication facts
L8	Family of Facts	Create addition and subtraction fact families
L9	Telling Time	Review telling time on a face clock
L10	Number Words	Practice writing numbers Practice using place value
L11	Patterns	Recognize number patterns
L12	Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers Use mental math to add and subtract
L13	Reading and Writing Fractions	Define numerator and denominator Practice reading and writing fractions
L14	Practice Multiplication	Practice multiplication facts for 8's and 9's
L15	Counting Money	Practice counting U.S. money Practice writing amounts of U.S. money
L16	Operations	Review operation signs Practice solving equations
L17	Review: Numbers	Review cardinal and ordinal numbers Review expanded notation
L18	Story Problems	Learn three problem solving strategies Practice solving story problems
2 ROUNDING AND ESTIMATION		
L1	Operations	Practice using operation symbols Practice addition, subtraction, and multiplication operations
L2	Multiplication Facts: 6-10 and Review	Practice multiplication facts Multiply multi-digit numbers by a one digit multiplier
L3	Using Standard Measures	Identify standard measures of time, money, volume, and distance
L4	Place Value to 10,000s	Identify place value to the 10,000's place
L5	Relation Symbols	Use relation symbols to compare the values of numbers
L6	Missing Number Equations	Solve missing numbers equations

L7	Review: Even and Odd Numbers	Review even and odd numbers and number patterns
L8	Adding and Subtracting Fractions	Identify the parts of a fraction Add and subtract fractions with like denominators
L9	Rounding Numbers to 10s	Round numbers to the nearest 10
L10	Estimating Answers to 10s	Use rounding to estimate to the nearest 10
L11	Review: Math Symbols	Review mathematical symbols Review units of measurement Review writing number words
L12	Equivalent Fractions	Find equivalent fractions
L13	Rounding Numbers to 100s	Round numbers to the nearest hundred
L14	Estimating Answers to 100s	Use rounding to estimate to the nearest hundred
L15	Review: Computation	Solve addition, subtraction, and multiplication problems
L16	Review: Bar Graphs and Fractions	Construct a bar graph Solve fraction problems using pictures
L17	Review: Fractions	Practice adding and subtracting fractions with like denominators

3 WHOLE NUMBERS AND FRACTIONS

L1	Place Value	Read and write numbers to the ten thousands place
L2	Rounding Numbers to 10s, 100s, and 1,000s	Round numbers to the nearest ten, hundred, and thousands' place
L3	Multiply with Carrying to 10s	Solve multiplication problems that require carrying
L4	Multiplication Practice	Practice solving multiplication problems with and without carrying
L5	Multi-Digit Addition and Subtraction	Practice regrouping in addition and subtraction
L6	Rounding and Estimating	Solve addition and subtraction problems using rounding and estimation
L7	Fractions Equal to Whole Numbers	Identify fractions with a value of one or more than one
L8	Estimate Answers to 1,000s	Estimate sums and differences to the thousand's place
L9	Relation Symbols	Compare the value of numbers using relation symbols
L10	Fractions	Add and subtract fractions with like denominators
L11	Add and Subtract to 10,000s	Add and subtract using regrouping to the ten thousand's place
L12	Check Your Answers	Practice checking your own work when adding and subtracting
L13	Equivalent Fractions	Make equivalent fractions Use cross-multiplication to check for equivalent fractions
L14	Learn Numbers to 100,000s	Read and write numbers to the hundred thousand's place
L15	Equations	Solve equations that contain a variable
L16	Reading and Solving Story Problems	Solve story problems using clues found in the problem
L17	Line Graphs	Interpret and create a line graph

4 LINES AND SHAPES		
L1	Plane and Solid Shapes	Identify plane and solid shapes
L2	Practice Addition and Subtraction	Regroup numbers that have a zero in the minuend Practice addition and subtraction with regrouping
L3	Place Value and Rounding	Review rounding and place value to the ten thousands' place
L4	Multiply with Carrying to 100s	Learn the properties of multiplication Practice multiplying with regrouping
L5	Lines, Segments, End Points, Rays, Angles	Identify lines and line segments Identify end points, rays, and angles
L5b	Lines, Directions, and Maps	Identify directions using a compass rose Measure distances on a map
L6	Review: Plane and Solid Shapes	Review and identify plane and solid shapes
L7	Fractions	Identify equivalent, proper, and improper fractions
L8	Missing Number Problems	Solve missing number equations
L9	Review: Operation and Relation Symbols	Solve equations using the proper operation and relation symbols
L10	Review: Expanded Notation and Estimation	Write numbers in expanded notation Estimate sums and differences using rounding
L11	Review: Fractions and Place Value	Review fractions and place value
5 DIVISION AND MEASUREMENT		
L1	Introduction to Division	Divide sets into equal groups Make fact families using division facts
L2	Multiplication	Multiply by one-digit multipliers
L3	Addition and Subtraction	Practice addition and subtraction
L4	Review: Time and Number Sense	Review place value and writing numbers Review telling time Review relation signs
L5	Linear Measurement	Identify standard linear units of measurement
L6	Capacity (Dry and Liquid Measurement)	Identify standard units of measurement for dry and liquid capacity
L7	Division Facts	Practice memorizing division facts
L8	Review: Multiplication	Multiply to the ten thousands' place
L9	Reading a Calendar	Find information on a calendar
L10	Perimeter and Area	Learn and use the formula for finding perimeter and area
L11	Finding Perimeter and Are	Practice finding perimeter and area
L12	Missing Number Problems	Practice solving equations with missing numbers
L13	Division Practice	Practice solving division problems
L14	Roman Numerals	Convert Arabic numbers to Roman numerals
L15	Review: Regrouping	Practice regrouping in addition, subtraction, and multiplication
L16	Patterns	Identify number patterns
6 MULTIPLICATION AND FRACTIONS		
L1	Prime and Composite Numbers	Identify prime and composite numbers
L2	Multiples	Identify multiples and factors

L3	Division with Remainders	Solve division problems with remainders
L4	Equations and Grouping	Review missing number problems Use grouping to solve missing number problems
L5	Proper and Improper Fractions	Identify proper and improper fractions using a number line
L6	Multiplication Facts For 11 and 12	Practice multiplication facts for 11's and 12's
L7	Fractions and Mixed Numbers	Read and write mixed numbers Add and subtract mixed numbers
L8	Review: Division and Roman Numerals	Practice using Roman numerals Practice solving division with remainder problems
L9	Measurements	Identify standard units of measure for length Identify standard units of measure for weight Identify standard units of measure for capacity
L10	Equivalent Fractions	Identify equivalent fractions Review lines and line segments
L11	Review: Rounding and Shapes	Round numbers to the nearest ten, hundred, and thousand Review plane shapes
L12	Factors and Multiples	Identify factors and multiples
L13	Problem Solving with Equations	Solve story problems using missing number equations
7 FRACTIONS AND PATTERNS		
L1	Multiplication and Division	Multiply with two-digit multipliers Review division with remainders
L2	Factors, Multiples, and Variables	Review prime and composite numbers Review factors and multiples Review relation signs Review variables
L3	Fractions	Identify proper and improper fractions using graphics
L4	Multiplication and Fractions	Solve two-digit multiplication problems Simplify fractions
L5	Average and Number Rules	Determine the average of a set of numbers
L6	Review: Measurement and Place Value	Review standard units of measure for length, weight, and volume
L7	Fractions	Add, subtract, and simplify fractions
L8	Missing Number Problems	Solve equations containing parentheses
L9	Rounding Numbers and Place Value	Round numbers to the nearest ten, hundred, and thousand
L10	Review: Shapes, Perimeter, and Area	Review plane and solid shapes Review lines and angles Find the perimeter and area of shapes
L11	Fractions and Patterns	Find number patterns Convert mixed numbers to improper fractions
L12	Practice: Operations and Money	Add and subtract amounts of money Use decimal points and dollar signs properly
L13	Review: Cardinal and Ordinal Numbers	Practice using cardinal and ordinal numbers

8 DIVISION AND FRACTIONS		
L1	Factoring and Place Value	Identify factors and multiples Identify prime and composite numbers
L2	Review: Two-Digit Multiplication	Multiply two and three-digit numbers by a two-digit multiplier
L3	Fractions	Identify mixed numbers, proper and improper fractions Add, subtract, and simplify fractions
L4	Division	Review and practice division with remainders
L5	Fractions	Find equivalent fractions Identify smallest common multiples Add and subtract fractions with unlike denominators
L6	Missing Number Problems	Use missing number equations to solve problems
L7	Multiplication	Multiply by one-digit and two-digit multipliers
L8	Division	Solve multi-digit division problems with and without remainders
L9	The Metric System	Identify metric units of measurement
L10	Fractions	Identify common denominators of fractions Find equivalent fractions Add and subtract fractions with unlike denominators
L11	Review: Time	Tell time on a face clock and a digital clock
L12	Review: Operations and Rounding	Review and practice computation Review and practice rounding
L13	Review: Roman Numerals, Measurement, and Symbols	Practice using Roman numerals Identify standard units of measure Solve equations through the use of relation symbols
9 DECIMALS AND FRACTIONS		
L1	Decimals	Read and write decimal numbers Calculate with decimal numbers
L2	Money	Practice adding and subtracting amounts of money
L3	Multiplication of Whole Numbers	Practice multiplying by two-digit multipliers
L4	Ordered Pairs	Use ordered pairs to find locations on a grid
L5	Division and Averages	Review and practice division by one-digit divisors Review and practice finding averages
L6	Add and Subtract Decimals	Add and subtract decimals
L7	Fractions with Different Denominators	Find equivalent fractions Add and subtract fractions with unlike denominators
L8	Equivalent Fractions and Decimals	Cross-multiply to find equivalent fractions Review place value of decimals
L9	Multiply and Divide	Practice multiplication and division
L10	Mixed Numbers	Add and subtract mixed numbers
L11	Sensible Answers	Use rounding and estimation to decide if an answer is sensible

L12	Review: Fractions	Review addition and subtraction of fractions Review finding equivalent fractions Review proper and improper fractions Review mixed numbers
L13	Review	Review metric units of measurement Review perimeter and area Review Roman numerals Practice solving equations
10 GRAPHING AND REVIEW		
L1	Data Collection and Random Sampling	Define random sampling Define prediction
L2	Graphs	Graph data on line and bar graphs Graph data on circle and picture graphs
L3	Whole Numbers	Practice the four basic operations: addition, subtraction, multiplication, and division Check multiplication and division problems
L4	Decimal Numbers	Review reading and writing decimal numbers Review computation with decimals
L5	Problem Solving with Fractions	Solve story problems using fractions
L6	Fractions	Add and subtract fractions Identify proper and improper fractions Simplify fractions Find common denominators
L7	Sizes, Shapes, and Measurements	Identify plane and solid shapes
L8	Word Problems and Equations	Practice solving word problems Practice solving equations

MATH 500

Unit Number and Title	Lesson Title	Lesson Objectives
1 NUMBER SENSE AND FRACTIONS		
L1	Operations	Review the four basic operations of addition, subtraction, multiplication, and division
L2	Place Value and Large Numbers	Review place value Read and write numbers to the millions place
L3	Fractions	Identify fractions using graphics
L4	Fractions - Words	Review how to read and write fractions
L5	Operations with Fractions	Add and subtract fractions with like denominators
L6	Equivalent Fractions	Identify equivalent fractions
L7	Test for Equivalent Fractions	Use cross-multiplication to identify equivalent fractions
L8	Working with Numbers	Review odd and even numbers Identify prime and composite numbers
L9	Mathematical Operations	Solve equations using grouping
L10	Comparing Numbers	Compare numbers using the greater than and less than symbols
L11	Comparing Numbers Continued	Practice comparing the values of large numbers
L12	Expanded Numbers	Write numbers in their expanded forms
L13	Rounding Numbers	Round numbers to the nearest tens place Round numbers to the nearest hundreds place
L14	Rounding to 1,000s	Round numbers to the nearest thousand and ten thousand
L15	Estimation	Estimate sums and differences using rounding
L16	Estimation of Multiplication Problems	Estimate multiplication products using rounding
2 FRACTIONS AND MULTIPLICATION		
L1	Multiply with Two-Digit Multipliers	Multiply numbers by two-digit multipliers
L2	Division Problems	Solve division problems with and without remainders
L3	Factors and Multiples	Identify factors and multiples
L4	Fractions	Identify proper and improper fractions and mixed numbers Convert improper fractions to whole or mixed numbers
L5	Simplifying a Fraction	Simplify fractions to lowest terms
L6	Add and Subtract Fractions	Add and subtract fractions and mixed numbers with like denominators
L7	Subtract Mixed Numbers	Subtract mixed numbers with like denominators
L8	Shapes	Identify plane shapes and polygons
L9	Solids	Identify solid shapes
L10	Angles and Real-Life Shapes	Identify line segments and angles
L11	Drill: Add, Subtract, and Multiply	Practice memory and speed of basic math facts
L12	Multiplication Facts: The 13s	Practice multiplication facts for the 13s times table

L13	Multiplication Facts: The 14s	Practice multiplication facts for the 14s times table
L14	Multiplication Facts: The 15s	Practice multiplication facts for the 15s times table
L15	Drill: Divide	Practice solving division problems
L16	Families of Facts	Make addition and subtraction fact families
L17	Family of Facts: Multiplication and Division	Make multiplication and division fact families
L18	Mathematics Symbols	Review operation, relation, and grouping symbols
L19	Practice Reading Symbols	Solve equations using operation and relation symbols
3 DIVISION, AVERAGING, POLYGONS		
L1	Introduction to Short Division	Solve division problems using the short division method
L2	Short Division Practice	Practice the short division method
L3	Division Symbols	Use three different division symbols when solving division problems
L4	Adding/Subtracting with Unlike Denominators	Find common denominators Add and subtract fractions with unlike denominators
L5	More Adding/Subtracting of Fractions	Practice adding and subtracting fractions with unlike denominators
L6	Estimation	Estimate solutions to story problems
L7	Averaging Numbers	Find the average of a set of numbers
L8	Writing A Number Sentence	Write number sentences to solve story problems
L9	Properties of Addition	Identify the zero property of addition Identify the order property of addition Identify the grouping property of addition
L10	Practice Adding/Subtracting/Multiplying	Practice addition, subtraction, and multiplication computation
L11	Perimeter of Polygons	Find the perimeter of polygons
L12	Area of Squares and Rectangles	Find the area of squares and rectangles
L13	Area of Polygons	Find the area of polygons
4 GEOMETRY, DECIMALS, MULTIPLICATION		
L1	Lines	Identify five different types of lines
L2	Protractor Measurement	Define protractor Identify three types of angles
L3	Figures	Identify symmetry in figures Categorize similar, congruent, and incongruent shapes
L4	Triangles	Identify equilateral, scalene, and isosceles triangles
L5	Circles	Find the perimeter and area of shapes Find the diameter and radius of a circle
L6	Roman Numerals	Convert Arabic numbers to Roman numerals
L7	Decimals	Identify the place value of decimal numbers
L8	Writing Decimals Two Ways	Write decimals as fractions and mixed numbers
L9	Multiplication Properties	Identify the properties of multiplication
L10	Solving Multiplication Problems	Practice solving multiplication problems

L11	Solving Multiplication Problems Continued	Practice multiplication computation
L12	More Solving Multiplication Problems	Solve story problems using multiplication
L13	Solving Division Problems	Find divisors using divisibility rules
L14	Multiplication and Short Division	Solve multiplication and division problems using a calculator
5 MULTIPLICATION, MEASUREMENT, AND FRACTIONS		
L1	Multiply and Divide by 10,100,1000	Multiply and divide by 10 and 100
L2	Operations by 10,100,1000 (Continued)	Multiply and divide by 10, 100, and 1,000
L3	Multiplying Two-Digit Numbers	Multiply by two-digit multipliers
L4	Multiplying Three-Digit Numbers	Multiply by three-digit multipliers
L5	Measurement	Measure length, width, and capacity using customary units of measure
L6	Simplifying Measurement Problems	Add and subtract using units of measure
L7	Measurement of Time	Measure time using standard units of measure
L8	Review	Review number sense Review measurement Review fractions
L9	Review (Continued)	Review basic operations Review geometry Review measurement Review fractions
L10	Formulas	Use a formula to calculate distance
L11	Subtracting Mixed Numbers	Subtract fractions from whole numbers
L12	Subtracting Mixed Number Problems	Practice subtracting mixed numbers
L13	Solving Division Problems	Solve division problems using long and short division
L14	Long and Short Division	Practice division using both the long and short methods
6 PLACE VALUE, FRACTIONS, DECIMALS		
L1	Multiplication of Fractions	Multiply fractions
L2	Simplifying Multiplication by Fractions	Simplify problems before multiplying
L3	Place Value	Identify the place value of decimals
L4	Place Value Words	Read and write decimal numbers
L5	Decimal Numbers	Practice reading decimals
L6	Writing Decimal Numbers	Practice writing decimal numbers
L7	Review	Identify odd, even, prime, and composite numbers Practice fractions Identify types of lines Solve missing number problems Practice basic computation skills
L8	Multiplication by Whole Numbers	Multiply by whole numbers Memory practice of multiplication facts
L9	Division by Whole Numbers	Practice division using mental math
L10	Adding Decimals	Practice adding decimals

L11	Adding Decimals	Practice adding decimals Identify how zero affects the value of decimals
L12	Adding Decimals Continued	Add columns of decimal numbers
L13	Subtracting Decimals	Subtract decimal numbers
L14	Subtracting Decimals Continued	Practice addition and subtraction of decimals
L15	Multiplication of Decimals	Multiply decimal numbers
7 FRACTIONS AND METRIC SYSTEM		
L1	Dividing with Two Digits	Solve division problems with a two-digit divisor
L2	Working Division with Two Digits	Practice division with two-digit divisors
L3	Fractions	Review reading and writing fractions
L4	Fractions-Proper and Improper	Review and identify proper and improper fractions
L5	Reducing Fractions	Review and practice reducing fractions
L6	Add/Sub Mixed Numbers - Like Denoms.	Add mixed numbers with like denominators Subtract mixed numbers with like denominators
L7	Finding Common Denominators	Find common denominators
L8	Subtracting by Finding Common Denoms.	Practice finding common denominators
L9	Add/Sub Mixed Numbers - Unlike Denoms.	Add mixed numbers with unlike denominators Subtract mixed numbers with unlike denominators
L10	Metric System	Identify the basic units of the metric system
L11	Measuring with the Metric System	Measure using the metric system
L12	Review: Formulas	Use formulas to calculate area, perimeter, and distance
L13	Multiplying Fractions with Whole Numbers	Multiply fractions by whole numbers
L14	Multiplying Fractions with Mixed Numbers	Multiply fractions and mixed numbers
L15	Multiplying Decimals with Whole Numbers	Multiply whole and decimal numbers
8 CALCULATORS AND REVIEW		
L1	Whole Numbers and Your Calculator	Practice using a calculator
L2	Multiplication with Your Calculator	Practice multiplication on a calculator
L3	Division with Your Calculator	Practice division on a calculator
L4	Add/Sub Decimals with Your Calculator	Practice solving addition and subtraction problems with decimals on a calculator
L5	Mult/Div Decimals with Your Calculator	Multiply and divide decimals with a calculator
L6	Review: Properties of Add/Mult	Review and identify the similar properties of addition and multiplication
L7	Review: Grouping and Fractions	Review grouping number concepts Solve word problems using fractions
L8	Review: Estimation and Rounding	Determine sensible answers through rounding and estimation
L9	Factor Boxes	Determine prime factors using factor boxes
L10	Prime Factors	Practice prime factorization using a factor box

L11	Review of Mixed Numbers	Practice converting mixed numbers to improper fractions Practice converting improper fractions to mixed numbers
L12	Mult. of Whole Numbers and Fractions	Practice multiplying whole numbers by fractions
L13	Mult. of Fractions with Fractions	Practice multiplying fractions with fractions
L14	Mixed Numbers to Improper Fractions	Convert mixed numbers to improper fractions
L15	Multiplying Mixed Numbers	Multiply mixed numbers
9 FRACTIONS, RATIOS, AND DECIMALS		
L1	Finding Reciprocals	Find reciprocals of fractions
L2	Reciprocals and Dividing Fractions	Practice finding reciprocals Find reciprocals of fractions Divide fractions
		Practice finding reciprocals
L3	Dividing Fractions with Whole Numbers	Divide fractions by whole numbers
L4	Dividing Fractions with Mixed Numbers	Divide fractions Divide fractions by mixed numbers Divide fractions by whole numbers Divide mixed numbers by fractions
		Divide fractions by mixed numbers
L5	Division of Decimals	Divide decimal numbers by whole numbers
		Divide decimal numbers by whole numbers
L6	Place Value and Remainders	Use decimals instead of remainders in division
		Find information on a coordinate graph using ordered pairs
L7	Coordinate Graphs	Find information on a coordinate graph using ordered pairs
		Describe and compare groups of objects using ratios Convert decimals to percents
L8	Ratios	Describe and compare groups of objects using ratios
L9	Converting Fractions and Decimals	Convert fractions to decimals Practice problem solving Convert decimals to fractions
L10	Fractions to Decimals to Percent	Convert fractions to decimals Convert decimals to percents
L11	Comparing Fractions	Compare the values of fractions
L12	Add/Sub Mixed Numbers and Decimals	Addition and subtraction of mixed numbers Addition and subtraction of decimals
L13	Mult/Div Fractions and Decimals	Multiplication and division of mixed numbers Multiplication and division of fractions
L14	Word Problems	Practice problem solving

10 ESTIMATION, RANDOM SAMPLES, GRAPHS, REVIEW		
L1	Estimation and Prediction	Identify data Identify random samples Identify biased samples
L2	Random Samples	Answer questions based on data from random samples
L3	Graphs	Graph data provided from a random sample
L4	Problems Using Graphs	Solve problems using graphs
L5	Review: Factors, Rounding, and Averages	Review and practice finding factors Review and practice rounding Review and practice finding averages
L6	Review: Lines, Angles, Shapes, and Ratios	Identify different types of lines Identify three types of angles Identify shapes Describe information in ratio form
L7	Review: Place Value	Review place value to the hundred millions
L8	Review: Writing Large Numbers	Review writing numbers to the hundred millions
L9	Review: Missing Number Equations	Solve missing number equations
L10	Review: Multiplication of Whole Numbers	Multiply by one, two, and three-digit multipliers
L11	Review: Division of Whole Numbers	Review division of whole numbers

MATH 600

Unit Number and Title	Lesson Title	Lesson Objectives
1 NUMBERS AND PLACE VALUE		
L1	Reading and Comparing Numbers	Match the Arabic numerals to number words Compare number values
L2	Place Value Through the Billion's Place	Learn to read numbers through the billion's place
L3	Roman Numerals	Convert Roman numerals to Arabic numerals Convert Arabic numerals to Roman numerals
L4	Ways of Looking at Numbers	Identify different ways to categorize numbers
L5	Expanded Notation	Explore place value using expanded notation
L6	Exponential Notation	Write numbers in exponential form Convert numbers from exponential form to standard form
L7	Exponents and Expanded Notation	Write numbers using exponents Write numbers in expanded notation
L8	Prime Factorization	Identify prime factors of a number using factor trees Identify prime factors of a number using factor boxes
L9	More Prime Factorization	Identify prime factors of a number using factor trees Identify prime factors of a number using factor boxes
L10	Number Relationships	Identify cardinal numbers Identify ordinal numbers Identify prime and composite numbers
2 OPERATIONS WITH WHOLE NUMBERS		
L1	Basic Mathematical Operations	Review the mathematical symbols and terms associated with addition Review the mathematical symbols and terms associated with subtraction Review the mathematical symbols and terms associated with multiplication Review the mathematical symbols and terms associated with division
L2	Properties of Addition	Identify number sentences that demonstrate the following properties: the Associative Property of Addition the Commutative Property of Addition the Identify Property of Addition

L3	More Practice with Properties of Addition	Solve addition problems that demonstrate one of the following properties: the Associative Property of Addition the Commutative Property of Addition the Identify Property of Addition Identify number sentences that demonstrate one of the following properties: the Associative Property of Addition the Commutative Property of Addition the Identify Property of Addition
L4	Operations and Their Opposites	Use inverse operations to solve problems Use inverse order of operations to solve problems
L5	Subtraction of Whole Numbers	Review the concept of borrowing in subtraction of whole numbers
L6	Introduction to Equations	Use addition to solve simple equations Use subtraction to solve simple equations
L7	Estimating	Calculate sums and differences Estimate sums and differences
L8	Commutative and Associative Properties of Multiplication	Solve multiplication problems that demonstrate one of the following properties: the Associative Property of Addition the Commutative Property of Addition the Identify Property of Addition Identify number sentences that demonstrate one of the following properties: the Associative Property of Addition the Commutative Property of Addition the Identify Property of Addition
L9	Multiplication of Whole Numbers	Review one-digit multiplication Review two-digit multiplication
L10	Factors, Multiples, and Whole Number Multiplication	Identify factors and multiples of whole numbers Complete two and three-digit multiplication problems
L11	Division of Whole Numbers	Calculate the quotient of one- and two-digit divisors
L12	Division of Whole Numbers	Review division with remainders
L13	More Division of Whole Numbers	Practice division with remainders
L14	Equations Using Multiplication and Division	Use multiplication to solve simple equations Use division to solve simple equations
3 ADVANCED PRACTICE WITH WHOLE NUMBERS		
L1	Sums and Differences	Calculate sums and differences Estimate sums and differences
L2	More Sums and Differences	Calculate sums and differences Estimate sums and differences
L3	Still More Sums and Differences	Calculate sums and differences Estimate sums and differences

L4	Estimating Products	Calculate products Estimate products
L5	Estimating Quotients	Calculate quotients Estimate quotients
L6	More Estimating Quotients	Calculate quotients Estimate quotients
L7	Calculator Practice: Addition and Subtraction	Practice adding whole numbers and decimal numbers on a calculator Practice subtracting whole numbers and decimal numbers on a calculator
L8	More Calculator Practice: Addition and Subtraction	Solve addition problems using a calculator Solve subtraction problems using a calculator Solve multiplication problems using a calculator Solve division problems using a calculator
L9	Divisibility Rules	Utilize the divisibility rules for 2, 3, 5, 6, 9, and 10
L10	Properties of Addition and Multiplication	Review the the following properties of addition: The Associative Property The Commutative Property The Identity Property Review the the following properties of multiplication: The Associative Property The Commutative Property The Identity Property
L11	Patterns and Number Sequences	Identify various number patterns
L12	Rounding and Missing Number Patterns	Round numbers to the given place value Solve for an unknown variable Solve word problems
L13	Problem Solving	Use problem-solving strategies to solve problems that review skills learned previously in this unit
4 DECIMAL NUMBERS		
L1	Positioning the Decimal Point	Identify the place value of specified digits in a given number
L2	Comparing Decimal Numbers	Compare decimal numbers using greater than and less than
L3	Rounding Whole Numbers and Decimal Numbers	Round decimal numbers to the hundredths place Round decimal numbers to the thousandths place
L4	More Rounding Whole Numbers and Decimal Numbers	Round to the given place value
L5	Rounding Decimal Numbers	Divide decimal numbers by a power of ten
L6	Decimal Numbers	Write decimal fractions in words Write decimal fractions using digits
L7	Equivalent Decimals	Create equivalent decimal numbers

L8	Adding and Subtracting Decimals	Add a column of three decimal numbers Subtract decimal numbers
L9	Adding Decimal Numbers	Rewrite horizontally aligned addition problems into vertically aligned addition problems and solve
L10	Decimal Numbers and Operations	Solve addition, subtraction, multiplication and division of decimal problems Convert fractions to decimals Convert decimals to fractions Write decimal numbers in words
L11	Review: Adding, Subtracting, and Multiplying Decimal Numbers	Adding decimal numbers Subtracting decimal numbers Multiplying decimal numbers
L12	Review: Rules of Multiplication and Division	Multiply whole numbers and decimal numbers Divide whole numbers and decimal numbers
L13	More Review: Multiplication and Division	Multiply whole numbers and decimal numbers Divide whole numbers and decimal numbers
L14	Multiplication of Decimals	Multiply decimal numbers times a multiple of 10
L15	Multiplication of Whole and Decimal Numbers	Multiply whole numbers and decimal numbers
L16	Multiplying Decimals	Multiply two given decimal numbers
L17	Division Using 10, 100, 1,000	Divide decimal numbers by powers of ten
L18	Review: Division	Divide whole numbers and decimal numbers
L19	Division of Decimal Numbers	Divide decimal numbers by decimal numbers
5 BEGINNING FRACTIONS		
L1	Introduction to Fractions and Decimals	Identify the parts of a fraction Identify that decimal numbers are special kinds of fractions Review how to write fraction and decimal number words
L2	Writing Fractions as Decimals	Convert decimal numbers into fractions Convert fractions into decimal numbers
L3	Relating Fractions to Decimals	Convert fractions to decimals
L4	Fractions to Decimals	Convert fractions to decimal numbers Convert decimal numbers to fractions Divide decimal numbers by whole numbers and other decimals
L5	Equivalent Fractions	Recognize equivalent fractions
L6	Proper, Improper, and Mixed Fractions	Construct proper fractions, improper fractions and mixed numbers
L7	Convert Improper Fractions to Mixed Numbers	Convert improper fractions into mixed numbers
L8	Fractions	Reduce fractions to their lowest terms Create equivalent fractions

L9	Reducing Improper Fractions	Reduce improper fractions to their lowest terms
L10	Converting Mixed Numbers to Improper Fractions	Convert mixed numbers into improper fractions
L11	Comparing Fractions	Compare fractions using greater than, less than, and equal to
L12	Least Common Multiple	Determine prime factors of a given number Calculate the least common multiple (LCM) of two given numbers using prime factors of the given numbers
L13	Review: Prime Factoring	Factor numbers using factor trees Identify the greatest common factor (GCF) of two given numbers Identify the least common multiple (LCM) of two given numbers
L14	Greatest Common Factors	Add fractions that do not have common denominators using least common multiples Subtract fractions that do not have common denominators using least common multiples Reduce fractions using greatest common factors
L15	Greatest Common Factors and Lowest Common Multiples	Calculate the GCF of two given numbers using prime factors Calculate the LCM of two given numbers using prime factors
L16	Addition and Subtraction of Fractions with Common Denominators	Add fractions with common denominators Subtract fractions with common denominators
L17	Addition and Subtraction of Mixed Numbers with Common Denominators	Add mixed numbers with common denominators Subtract mixed numbers with common
L18	Addition and Subtraction of Fractions and Mixed Numbers with Unlike Denominators	Add fractions and mixed numbers with unlike denominators Subtract fractions and mixed numbers with unlike denominators
L19	Subtraction of Unlike Fractions and Mixed Numbers with Borrowing	Subtract fractions with unlike denominators that require regrouping Subtract mixed numbers with unlike denominators that require regrouping
L20	Adding and Subtracting Fractions	Add and fractions and mixed numbers with unlike denominators Subtract fractions and mixed numbers with unlike denominators
L21	Adding Fractions	Add fractions and mixed numbers by finding the least common denominator (LCD) of two fractions

6 MULTIPLYING AND DIVIDING FRACTIONS		
L1	Multiplication of Fractions	Multiply fractions
L2	Multiplication of Proper Fractions	Multiply fractions Reduce products to simplest terms
L3	Multiplication of Fractions with Reducing	Multiply fractions times whole numbers Reduce products to simplest terms
L4	Multiplying Mixed Numbers	Multiply fractions and mixed numbers
L5	Multiplying Whole Numbers and Fractions	Multiply whole numbers times fractions
L6	Multiplying and Reducing Fractions	Multiply fractions Reduce using cross-cancellation
L7	Reciprocals	Write the reciprocals of the given fractions
L8	Division of Fractions by a Fraction	Divide and simplify fractions Simplify quotients
L9	Division of Fractions with Whole Numbers	Divide fractions by whole numbers Divide whole numbers by fractions Simplify quotients
L10	Division of Fractions with Mixed Numbers	Divide fractions by whole numbers Divide whole numbers by fractions Simplify quotients
L11	Dividing Whole Numbers and Fractions	Identify the reciprocal of a given fraction Divide fractions by whole numbers Divide whole numbers by fractions Divide fractions by mixed numbers Divide mixed numbers by fractions
L12	Dividing Fractions	Divide fractions
L13	More Dividing Fractions	Divide fractions Divide mixed numbers
L14	Multiplying and Dividing with Fractions	Solve equations using multiplication of fractions Solve equations using division of fractions
L15	Multiplying and Dividing with Decimals	Solve equations using multiplication of decimal numbers Solve equations using division of decimal numbers
7 DECIMALS AND FRACTIONS		
L1	Converting Fractions to Decimals and Percents	Convert decimals into percents Convert fractions into percents
L2	Finding Percentages	Convert decimals into percents Convert fractions into percents
L3	Equations Using Percent	Solve equations involving percent
L4	More Equations Using Percent	Solve equations involving percent

L5	Changing Fractions to Decimals to Percent	Convert fractions to decimal numbers Convert decimal numbers into percentages
L6	Converting Fractions to Decimals	Convert fractions to decimals using division
L7	Prime and Composite Numbers	Identify prime numbers Identify composite numbers
L8	Prime Numbers and Prime Factors	Identify prime and composite numbers Identify prime factors of a given number
L9	Prime and Composite Practice	Identify prime and composite numbers Identify prime factors of a given number
L10	Greatest Common Factors	Identify the greatest common factor (GCF) of given numbers
L11	Greatest Common Factors and Least Common Multiple	Identify the greatest common factor (GCF) of given numbers Identify the least common multiple (LCM) of given numbers Identify the prime factors of a given number using factor boxes
L12	Practice Adding Fractions	Add fractions and mixed numbers by finding the least common denominator (LCD) of two fractions
L13	Practice Subtracting Fractions	Subtract fractions and mixed numbers with borrowing
8 GEOMETRY AND MEASUREMENT		
L1	Two and Three Dimensional Shapes	Identify the following two-dimensional shapes: triangles circles squares Identify the following three-dimensional shapes: cylinders cubes spheres pyramids cones
L2	Three Dimensional Shapes	Identify the following three-dimensional shapes: cube sphere cylinder cone
L3	Shapes	Identify lines of symmetry Identify congruent shapes Identify similar shapes
L4	Circles	Calculate the radius area of circles Calculate the diameter of circles Calculate the circumference of circles Calculate the area of circles

L5	Lines, Angles, and Congruency	Identify the following types of lines: parallel lines intersecting lines perpendicular lines vertical lines horizontal lines Identify the following types of congruent shapes: triangles acute angles obtuse angles
L6	Lines, Rays, and Angles	Identify lines using standard naming conventions Identify rays using standard naming conventions Identify angles using standard naming conventions
L7	Angles	Identify lines, rays, and angles Draw lines, rays, and angles
L8	Angles and Shapes	Identify triangles based upon their angle measurement using the following names: right acute obtuse Identify triangles based upon their side measurement using the following names: equilateral isosceles scalene
L9	Perimeter, Volume, and Area	Calculate the perimeter of various cubes Calculate the volume various cubes Calculate surface area of various cubes
L10	More Perimeter, Volume, and Area	Calculate the perimeter of various geometric shapes Calculate the volume of various geometric shapes Calculate the surface area of various geometric shapes
L11	Equation Basics, Area and Perimeter	Solve simple equations Calculate area and perimeter of a rectangular room using a formula
L12	Review Formulas: Distance, Area, Perimeter, and Amount	Identify the formulas for the following: Area of rectangles, triangles, and circles Perimeter of rectangles and triangles Circumference of circles Volume of cubes Solve for the following: Area of rectangles, triangles, and circles Perimeter of rectangles and triangles Circumference of circles Volume of cubes

L13	Review Formulas: Area, Perimeter, Circumference, and Volume	Identify and practice using the following formulas: distance perimeter area amount
L14	More Review of Formulas	Identify and practice using the following formulas: distance perimeter area
L15	The Metric System	Learn the meaning of the various metric prefixes Convert from one unit of metric measure to another Compare one unit of metric measure to another using greater than and less than
L16	Converting Metric Units to English Units	Convert metric units to customary units Convert customary units to metric units
L17	Customary Units of Measure	Know the abbreviations for the customary units of measure Convert customary units of measure Add customary units of measure
L18	Add and Subtract Units of Measure, Time Zones	Subtract customary units of measure Convert time through time zones
L19	Multiplication and Formulas	Solve two- and three-digit multiplication problems Solve problems using the following formulas: Area Perimeter Distance Amount
9 STATISTICS AND GRAPHING		
L1	Prediction and Probability	Calculate the likelihood of a given event happening
L2	Ratios	Practice writing ratios using colons and fractions Determine the ratio of two given items within word problems
L3	Ratios and Division of Decimals	Recognize equivalent fractions as ratios Read bar graphs
L4	Reading Bar Graphs and Line Graphs	Read line graphs
L5	Reading Picture and Circle Graphs	Read circle graphs Read picture graphs
L6	Mean, Mode, and Median	Calculate mean of a given set of numbers Calculate mode of a given set of numbers Calculate median of a given set of numbers

L7	Statistics: Averaging	Solve word problems involving various types of averages
L8	Averages, Equalities, and Inequalities	Calculate the mean, mode, and median of a given set of numbers Identify equalities and inequalities Identify the greatest common factor (GCF) of a given set of numbers
L9	Problem Solving	Use problem solving skills to calculate answers
L10	Positive and Negative Numbers	Solve problems involving positive and negative numbers
L11	Coordinate Graphs	Identify points, or ordered pairs, on a coordinate graph
10 REVIEW		
L1	Operating on Whole Numbers	Review the following whole number concepts: Addition Subtraction Multiplication Division Number words Expanded notation Exponential form
L2	Basic Operations and Rounding	Review rounding numbers Review addition, subtraction, multiplication and division of whole numbers Compare numbers using less than, greater than, or equal to
L3	Multiplying and Dividing Whole Numbers	Multiply whole numbers Divide whole numbers
L4	Fractions, Averages, and Graphs	Calculate equivalent fractions Plot coordinate points on a grid Review bar graphs, circle graphs, and picture graphs Identify the mean, mode, and median of a given set of numbers
L5	Picture, Bar, and Pie Charts	Review circle graphs Review bar graphs Review picture graphs
L6	Adding and Subtracting Fractions	Add fractions and mixed numbers Subtract fractions and mixed numbers
L7	Multiplying Mixed Numbers	Multiply mixed numbers Multiply fractions
L8	Dividing Mixed Numbers	Divide mixed numbers Divide fractions

L9	Adding and Subtracting Decimals	Add decimal numbers Subtract decimal numbers
L10	Multiplying Decimals	Multiply decimal numbers
L11	Dividing Decimals and Rounding Numbers	Divide decimal numbers Round numbers to the given place value
L12	Patterns and Number Sequences	Use addition, subtraction, multiplication, and division to determine number patterns
L13	Rounding and Missing Number Problems	Round numbers to the given place value Solve for an unknown variable Solve word problems
L14	Problem Solving	Utilize problem-solving techniques to confirm answers to a set of given math problems Solve addition, subtraction, and multiplication problems

MATH 700

Unit Number and Title	Lesson Title	Lesson Objectives
1 SETS AND NUMBER SYSTEMS		
L1	Introductory Review(1)	Practice basic arithmetic operations Identify number types and patterns Round and estimate sums, differences, and products
L2	Introductory Review(2)	Review expanded notation and exponential notation Review proper fractions, improper fractions, and mixed numbers
L3	Venn Diagrams	Read data that is represented in a Venn diagram
L4	Sets: Special Symbols	Review vocabulary and symbols associated with sets
L5	Sets: Types	Review the following types of sets: empty or null; infinite and finite; proper and improper
L6	Sets: Uses	Explore uses for sets in mathematical settings Explore uses for sets in real world settings
L7	Sets: Intersection	Identify the intersection of given sets
L8	Sets: Union	Identify the union of sets using both words and symbols
L9	Sets: Review of Sets	Identify how Venn diagrams can be used to graphically display sets Review union and intersection of sets
L10	Ancient Number Systems	Investigate the properties of the following ancient number systems: Babylonian, Egyptian, Roman, and Hindu-Arabic
L11	Decimal Number System	Review place value Review exponential notation
L12	Number Systems: Base Ten and Base Five	Compare numbers in base ten and base five Convert numbers in base ten and base five
L13	Number Systems: Base Two	Convert numbers from base ten to base two Convert numbers from base two to base ten
L14	Number Systems: Base Sixteen	Convert numbers from base ten to base sixteen Convert numbers from base sixteen to base ten
2 PLACE VALUE		
L1	Place Value Review	Review the base ten place value system Review exponential notation
L2	Expanded and Exponential Form	Write numbers using expanded notation Write numbers using exponential notation
L3	Review: Addition with Carrying	Review addition with carrying
L4	More Review: Addtion with Carrying	Add numbers through the ten thousands place with carrying
L5	Review: Subtraction with Regrouping	Subtract using regrouping
L6	Place Value Less Than Zero	Review place value through the ten thousandths place Write decimal numbers using exponential notation
L7	Decimals: Addition and Subtraction 1	Review addition of decimal numbers Review subtraction of decimal numbers
L8	Decimals: Addition and Subtraction 2	Review addition of decimal numbers Review subtraction of decimal numbers
L9	Decimals: Applications	Solve story problems that involve addition of decimal numbers Solve story problems that involve subtraction of decimal numbers
3 WHOLE NUMBERS		
L1	Number Order	Review the concepts of greater than and less than using numbers through the ten thousands place
L2	Number Sentences	Identify number sentences as true, false, or open Solve for the variable in open number sentences
L3	Number Patterns and Ordered Pairs	Identify the pattern used to create a given list of numbers Use ordered pairs to solve number sentences with two variables
L4	Rounding Numbers 1	Round numbers to the nearest 10, 100, 1,000, or 10,000
L5	Rounding Numbers 2	Use rounding skills to estimate answers in word problems
L6	Estimating Sums	Use rounding skills to estimate sums
L7	More Estimating	Use rounding skills to estimate sums Use rounding skills to estimate differences
L8	Estimation Word Problems	Use rounding skills to estimate sums in real world problems Use rounding skills to estimate differences in real world problems
L9	Estimation Exercises	Use rounding skills to estimate sums and differences Calculate precise answers using a calculator
L10	Division, Remainders, and Your Calculator	Use a calculator to solve division problems that include remainders

4 WHOLE NUMBERS: MULTIPLICATION AND DIVISION		
L1	Properties of Addition and Multiplication	Identify the commutative properties of addition and multiplication Identify the associative properties of addition and multiplication Use the identity elements of addition and multiplication Use the zero property of multiplication
L2	The Distributive Property	Solve problems using the distributive property of multiplication over addition Solve problems using the distributive property of division over subtraction
L3	Multiplication 1	Review multiplying three-digit numbers by two-digit numbers
L4	Multiplication 2	Review multiplying three-digit numbers by three-digit numbers
L5	Functions	Determine the value of y given x in a functior
L6	Division 1	Review the vocabulary associated with divisior Estimate and compute quotients
L7	Division 2	Estimate and compute quotients
L8	Division 3	Identify patterns in a given list of numbe Solve for ordered pairs of numbers using function rules Solve real world problems using division
L9	Customary Units of Measure	Identify the abbreviations of customary units of measure Convert customary units of measure
L10	Multiplying and Dividing Weights and Measures	Multiply weights and measures Divide weights and measures
L11	Calculators and Prime Numbers	Use a calculator to identify prime numbers
5 FRACTIONS: ADDITION AND SUBTRACTION		
L1	Divisibility Rules and Factor Trees	Use divisibility rules when dividing and factoring Create factor trees to determine the prime factors of a given number
L2	Greatest Common Factor/Least Common Multiple	Use the prime factors of two or more numbers to identify the greatest common factor of the given numbers Reduce fractions using greatest common factors Use the prime factors of two or more numbers to identify the least common multiple of the given numbers
L3	Proper Fractions	Review the concept of fractions and equivalent fractions Reduce fractions using the greatest common factor of the numerator and the denominator Identify equivalent fractions by raising the numerator and denominator by the same multiple
L4	Improper Fractions 1	Reduce improper fractions to mixed numbers using division Recognize whole numbers written as fractions Convert mixed numbers into improper fractions
L5	Comparing Fractions	Review the value of fractions using a number line Convert mixed numbers into improper fractions Compare and sequence a list of given fractions
L6	Comparing Decimal Numbers	Review place value through the millionths place Convert decimal numbers into fractions Compare the value of two or more given decimal numbers
L7	Fractions as Decimals	Convert decimal numbers into fractions Convert fractions into decimal numbers
L8	Decimals, Fractions, and Percents	Convert decimal numbers, fractions, and percents into equivalent forms
L9	Ratios and Proportions	Express ratios using fractions, colons, or the word "to" Compare ratios using proportions
L10	Metric Measurement	Practice metric conversions
L11	Terminating and Repeating Decimals	Convert fractions and mixed numbers to terminating decimal numbers Convert fractions and mixed numbers to non-terminating decimal numbers
L12	Decimals with a Calculator	Add, subtract, multiply, and divide decimal numbers using a calculator Convert fractions to decimal numbers using a calculator Review rounding to a given place value
L13	Uses of Percents	Convert decimal numbers to percent Convert percent into decimal numbers Calculate a given percentage of a given number
L14	with Like Denominators	Add fractions with like denominators Subtract fractions with like denominators
L15	Adding and Subtracting Fractions	Add fractions with like denominators, and then reduce the answer to a proper fraction Subtract fractions with like denominators, and then reduce the answer to a proper fraction

L16	More Adding and Subtracting Fractions	Add fractions with like denominators, and then reduce the answer to a proper fraction Subtract fractions with like denominators, and then reduce the answer to a proper fraction
L17	Mixed Numbers: Adding and Subtracting with Like Denominators	Add mixed numbers with like denominators, and reduce to a proper fraction Subtract mixed numbers with like denominators, and reduce to a proper fraction
L18	Mixed Numbers: Subtracting with Regrouping	Subtract mixed numbers with regrouping
L19	Problem Solving with Fractions	Solve word problems using addition of fractions and mixed numbers Solve word problems using subtraction of fractions and mixed numbers
L20	Least Common Denominators	Find the least common denominator of two fractions with unlike denominators Add fractions with unlike denominators Subtract fractions with unlike denominators
L21	Equivalent Fractions	Create an equivalent set of fractions using the least common denominator of a given set of fractions
L22	Fractions: Adding and Subtracting with Unlike Denominators	Add fractions with unlike denominators by creating least common denominators and equivalent fractions Subtract fractions with unlike denominators by creating least common denominators and equivalent fractions
L23	Reducing Final Answers	Reduce sums to simplest terms Reduce differences to simplest terms
L24	More Fractions: Adding and Subtracting with Unlike Denominators	Add fractions with unlike denominators by using least common denominators and equivalent fractions Subtract fractions with unlike denominators by using least common denominators and equivalent fractions
L25	Even More Addition and Subtraction of Fractions	Add with unlike denominators by using least common denominators and equivalent fractions Subtract fractions with unlike denominators by using least common denominators and equivalent fractions
L26	More Problem Solving with Fractions	Solve word problems using addition of fractions and mixed numbers Solve word problems using subtraction of fractions and mixed numbers
6 FRACTIONS: MULTIPLICATION AND DIVISION		
L1	Multiplying Fractions	Multiply fractions Reduce products to simplest terms
L2	Reducing Fractions	Reduce fractions by identifying the greatest common factor of the denominator and the numerator Review divisibility rules Simplify fractions before multiplying using cancelling
L3	Multiplying Mixed Numbers	Review how to convert a mixed number to an improper fraction Multiply mixed numbers
L4	More Multiplying Mixed Numbers	Review how to convert an improper fraction to a mixed number Multply mixed numbers and reduce products to simplest terms
L5	Numbers	Divide fractions by fractions Divide mixed numbers by mixed numbers
L6	Problem Solving: Multiplication, Division, and Reasonable Answers	Solve real-world problems involving fractions using multiplication Solve real-world problems involving fractions using division Use estimation skills to determine the reasonability of a given answer
L7	Converting Fractions to Decimals	Convert fractions to decimals Convert mixed numbers to decimals Convert decimals to fractions
L8	Decimals: Multiplication	Multiply decimal numbers Multiply decimal numbers times a power of ten
L9	Decimals: Division	Divide decimal numbers Divide decimal numbers by a power of ten
L10	Decimals: Word Problems	Solve real-world problems involving decimal numbers using multiplication Solve real-world problems involving decimal numbers using division Review rounding skills
L11	Solving for Percentages	Solve equations that involve a percentage of a given number
L12	Solving for Percentages: Rate and Base	Solve real world equations that involve a percentage of a given number

7 GEOMETRY		
L1	Introduction to Lines, and Angles	Identify lines and line segments Use geometric terms to name given angles
L2	Using a Protractor	Identify a specified angle by name Use a protractor to measure the size of a given angle
L3	Triangle Terms	Identify the parts of a triangle Name triangles by their vertexes Identify the following types of triangles: equilateral, right, isosceles, and scalene
L4	Perimeter and Area of Triangles	Calculate the perimeter of a given triangle Determine the area of a triangle using grid paper
L5	Perimeter and Area of Squares and Rectangles	Determine the perimeter of given squares and rectangles using grid paper Determine the area of given squares and rectangles using grid paper Find the sum of the angles of given squares and rectangles
L6	Parallelograms, Trapezoids, and Formulas	Determine the perimeter and area of given parallelograms and trapezoids using grid paper Use given formulas for calculating the area and perimeter of squares, rectangles, parallelograms, and triangles
L7	Circles	Calculate the circumference of circles using a formula Calculate the area of circles using a formula
L8	Hexagons	Determine the perimeter of hexagons using grid paper Determine the area of hexagons using grid paper Identify various geometric shapes and terms
L9	Ratio Review	Review ratios written as fractions
L10	Proportion Review	Review solving proportions
L11	Similar Figures and Scale Drawings	Use proportions to determine similar figures Use proportions to determine if a map and/or geometric figure is drawn to scale
8 STATISTICS AND GRAPHS		
L1	Introduction to Statistics	Know vocabulary and terms related to gathering and organizing statistical data
L2	Introduction to Frequency Distribution	Analyze data to determine the number of times a piece of data is repeated in a given set Calculate the relative frequency of a given piece of data in relation to the whole set of data
L3	Measures of Central Tendency: Mode and Median	Determine the mode of a given set of data Determine the median of a given set of data
L4	Measures of Central Tendency: Mean and Range	Determine the mean of a given set of data Determine the range of a given set of data
L5	Review: Types of Graphs	Review bar graphs, line graphs, and picture graphs Use comparison graphs to compare two or more sets of data
L6	Coordinate Graphs	Identify a set of points of a coordinate graph
9 FORMULAS, FUNCTIONS, RATIOS, AND PROPORTIONS		
L1	Solving for Unknown Variables	Use formulas to solve for unknown variables
L2	Formulas: From Interest to Miles per Gallon	Use formulas to solve for unknown variables
L3	Ordered Pairs and Functions	Solve for ordered pairs given an algebraic function
L4	Equations: Defining and Solving	Identify equations as true, false, or open Solve for the variable in open equations
L5	Isolating the Variable	Use opposite operations to solve for unknown variables in equations
L6	Using Formulas to Solve Problems	Use common formulas (area, rate, interest) to solve real-world problems
L7	Review: Ratios	Review ways to write ratios
L8	Review: Proportions	Review how to determine if a proportion is true, false, or open Solve open proportions
10 REVIEW		
L1	Place Value, Order, and Rounding	Review place value Review comparing numbers using greater than and less than Review rounding whole numbers
L2	Central Tendency, Ratios, and Proportions	Review the measures of central tendency Review identifying ratios and proportions
L3	Problem Solving Strategies	Use various strategies to solve real-world problems
L4	Geometric Properties	Review the following geometric properties: area, perimeter, and circumference
L5	Sets	Review the terms and symbols used to identify sets Review Venn diagrams that are used to graphically display sets.

L6	Number Systems and Factorization	Review converting numbers from base ten to base two Review factorization using least common multiples and greatest common factors
L7	Operating on Fractions and Decimals	Review addition, subtraction, multiplication and division of fractions Review dividing decimal numbers
L8	Base, Rate, and Percentage	Review converting decimal numbers to percentages Review converting percentages into decimal numbers Review solving for a given percentage of a number
L9	Percentages and Averages	Review how to solve for a percentage of a given number Review how to determine the average (mean) of a given set of numbers
L10	Formula Review	Review how to solve for an unknown value within a formula
L11	Solving Equations	Review how to determine if an equation is true, false, or open Solve open equations
L12	Ratios and Proportions	Review how to write a ratio from a given set of data Review how to solve for a proportion
L13	Different Types of Statistics	Review data collection Review measures of central tendency

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Unit Number and Title	Lesson Title	Lesson Objectives
1 PLACE VALUE AND SETS		
L1	What Are Whole Numbers?	Review place value of whole number Review word names of whole number
L2	Whole Numbers from Words to Numerals	Review whole number word names
L3	Whole Number Place Value	Identify the place value of whole numbers through th quadrillions place Write numbers in expanded notatio
L4	Rounding Numbers	Round whole numbers to the specified place valu
L5	Mathematical Symbols and Multiples	Review basic arithmetic and mathematical symbols Identify multiples of a given whole numb
L6	Ancient Numeral Systems	Translate Arabic numerals into Roman numeral Translate Arabic numerals into Egyptian numeral
L7	More Ancient Numeral Systems	Translate Arabic numerals into Sumarian numerals Translate Arabic numerals into Egyptian numeral Examine multiplying three-digit by four-digit number using a lattice
L8	Base Ten and Exponential Forn	Write numbers using expanded notatio Write numbers using exponential forn
L9	Base Ten and Base Twc	Translate numbers from base ten to base tw Translate numbers from base two to base te
L10	Introduction to Sets	Review the basic concepts of set theor
L11	Properties of Addition and Multiplication	Review the Commutative Properties of Addition Review the Commutative Properties of Multiplication Review the Associative Properties of Additio Review the Associative Properties of Multiplicatic
L12	Operations with Sets	Practice the operations of union and intersection o sets Review the use of Venn diagrams with set
L13	Simple Probability	Examine the concept of theoretical probabilit Examine the concept of relative frequenc
L14	Or Statements: Union of Sets	Determine the probabilty of an event utilizing o statements
L15	And Statements: Intersection of Sets	Determine the probabilty of an event utilzing an statements
2 FACTORS AND MULTIPLES		
L1	Prime and Composite Numbers	Identify prime numbers Identify composite numbers
L2	Divisibility Tests for Factors	Use divisibility rules to determine what will divide into given number evenly
L3	Using Factors and Multiples	Determine the prime factors of a given numb Find the square of a given numbe
L4	Squares and Square Roots	Find the square of a given numbe Find the square root of a given numb Solve simple equations that involve squared numbers
L5	Greatest Common Factor	Identify the greatest common factor (GCF) of twc given numbers Use GCF to reduce fractions Use GCF to determine if two given numbers are relatively prime
L6	Least Common Multiple	Identify the least common multiple of two given numbers Use the LCM of two fractions to determine a commor denominator
L7	Proper Fractions and Equivalent Fractions	Review proper fractions Review improper fractions Review mixed numbers Review equivalent fraction
L8	Reducing Fractions, Raising Fractions	Use GCF to reduce fractions to lowest terms Find equivalent fractions
L9	Improper Fractions and Mixed Numbers	Convert improper fractions into mixed numbers Convert mixed numbers into improper fraction
L10	Mixed Numbers and Improper Fractions	Convert improper fractions into mixed numbers Convert mixed numbers to improper fraction Solve division problems and write the quotient as mixed number Identify fractional value on a number lin
L11	Fractional Values	Compare fractions using greater than or less tha Put fractions and mixed numbers in numerical orde using a list or a number line
L12	Decimal Numbers and Place Valuc	Convert fractions to decimal number Review the words used to describe decimal numbers Identify decimal numbers that have been written i expanded notation Identify the place value of a given digit in a decima number
L13	Comparing Value and Fractions as Decimal	Compare decimal numbers using greater than, less than, or equal to Arrange decimal numbers into numerical orde Convert fractions to decimal number
L14	Changing Decimals to Fractions; Equivalent Fractions	Convert decimal numbers to fractions and mixec numbers Convert fractions and mixed numbers to decima numbers
L15	Percent and Percent as Decima	Define random sampling Make predictions
L16	Fractions and Percentages	Convert percentages to decimal number Convert decimal numbers to percentage Practice finding percents
L17	Introduction to Ratios	Practice writing ratios using fractions, words, and colons
L18	Introduction to Proportions	Identify proportions using equivalent fraction Identify proportions using multiplication of the means and extremes

L19	Similar Figures and Scale Drawings	Use proportions to determine the similarity of two give figures Use proportions to identify graphics that are drawn t scale
L20	Introduction to Scientific Notatior	Practice writing numbers using scientific notatio Convert metric measurements using scientific notation
L21	Terminating Decimals, Repeating Decimals	Convert fractions to terminating decimal numbers Convert fractions to repeating decimal number Convert terminating decimal numbers to fraction Convert repeating decimal numbers to fraction
L22	Adding Fractions and Decimals	Add fractions with common denominator Find common denominators to add fractions withou like denominators Add decimal numbers
L23	Exploring Different Kinds of Numbers	Identify counting numbers Identify whole numbers Identify integers Identify rational numbers

3 FRACTIONS AND ROUNDING

L1	Addition: Fractions with Common Denominators	Add fractions with common denominators
L2	Addition of Fractions: Reducing Sums	Add fractions with common denominators Reduce fractions using Greatest Common Factors (GCF)
L3	Addition: Unlike Fractions	Add fractions with unlike denominator Use Least Common Multiples (LCM) to conver fractions to common denominators before adding
L4	Addition: Unlike Fractions, Mixed Numbers	Add a set of three fractions with unlike denominators using the Least Common Multiple to identify common denominators Add mixed numbers
L5	More Addition of Mixed Numbers	Add mixed numbers Reduce sums to the simplest form Solve word problems that involve fractions using addition
L6	Subtraction of Like Fractions	Subtract fractions with common denominator
L7	Subtractions of Unlike Fractions	Subtract fractions that do not have common denominators Find common denominators of fractions using Leas Common Multiples
L8	Subtraction of Mixed Numbers	Subtract mixed numbers that do not have commor denominators Find common denominators of fractions using Leas Common Multiples Simplify fractions (differences) to lowest terms
L9	More Subtraction of Mixed Numbers	Subtract mixed numbers that do not have commor denominators Find common denominators of fractions using Leas Common Multiples Simplify fractions (differences) to lowest terms
L10	More Practice: Subtraction of Mixed Numbers	Subtract mixed numbers that do not have commor denominators Find common denominators of fractions using Leas Common Multiples Simplify fractions (differences) to lowest terms
L11	Addition of Decimals	Add decimal numbers
L12	Subtraction of Decimals	Subtract decimal numbers Use addition to check the answers to subtraction problems
L13	Calculator Exercises	Use a calculator to multiply and divide decima numbers Use a calculator to solve word problems that involv decimal numbers
L14	Rounding Numbers	Round to the nearest whole number place valu Round the nearest decimal place valu
L15	Fraction and Decimal Review	Add fractions with and without common denominators Subtract fractions with and without commor denominators Find common denominators using Least Commor Multiples Add and subtract decimal numbers Round to the nearest whole number place valu Round to the nearest decimal place valu

4 FRACTIONS AND PERCENT

L1	Multiplying Fractions	Multiply fractions Simplify by canceling common factors prior to multiplying
L2	Multiplying Mixed Numbers and Decimal Numbers	Multiply mixed numbers Simplify by canceling common factors prior to multiplying Complete function tables using multiplication o fractions Multiply decimal numbers
L3	Division of Fractions	Determine the reciprocal of a given fraction or mixe number Divide fractions Divide mixed numbers
L4	Division of Decimal Numbers	Divide decimal numbers
L5	More Division of Decimal Numbers	Divide decimal numbers
L6	Decimal Division and Rounding	Divide decimal numbers Round the quotient to the given decimal place value
L7	More Decimal Division and Rounding	Divide decimal numbers Round the quotient to the given decimal place value

L8	Review of Decimal Division, Rounding, and Function Tables	Divide decimal numbers Round the quotient to the given decimal place value Complete function tables that involve fraction Complete function tables that involve decimal numbers Solve word problems involving fractions and decima numbers
L9	Fractions, Decimals, and Percents	Convert fractions to percentage Convert decimal numbers to percentage Solve equations involving percentage
L10	Percentage Problems	Solve equations that involve percentage
L11	More Percentage Problems	Solve equations that involve percentage
5 NUMBERS		
L1	Review of Basic Number Theory	Write the number word for the given numbe Write the given number in expanded notatio Write the given expanded number in standard for Round to the given whole number place valu Solve addition problems
L2	Addition and Subtraction Word Problems	Solve word problems that involve addition of whol numbers Solve word problems that involve subtraction of whol numbers
L3	Multiplication of Whole Numbers	Solve multiplication problems that involve whol numbers
L4	Multiplication Word Problems	Solve word problems that involve multiplication c whole numbers
L5	Division Word Problems	Solve word problems that involve division of whol numbers
L6	Word Problems Using the Four Operations	Solve word problems that involve addition, subtractio multiplication, and divisio
L7	Numbers and Sets	Identify various forms of number representatio Review set concepts
L8	Review: Factors, Multiples, and Rational Numbers	Review whole number concepts Review fraction concepts
L9	Review: Decimals and Applications	Review decimal number concepts
L10	Review: Addition of Fractions and Mixed Numbers	Add fractions with common denominators. Use Least Common Multiple to determine equivalen fractions for fractional addition problems that do not have common denominator Reduce sums to simplest form
L11	Review: Subtraction of Fractions and Mixed Numbers	Subtract fractions with common denominators Use Least Common Multiple to determine equivalen fractions for fractional addition problems that do not have common denominator Reduce differences to simplest form
L12	Review: Addition and Subtraction o Fractions and Mixed Numbers	Add decimal numbers Subtract decimal numbers
L13	Review: Multiplication of Fractions and Decimals	Multiply fractions and mixed numbers Reduce products to simplest form Multiply decimal numbers
L14	Review: Division of Fractions and Decimals	Divide fractions and mixed numbers Divide decimal numbers
L15	Review: Percentage Equations	Review solving problems that involve percentage Round numbers to the given place valu
L16	Mean, Mode, Median, and Range	Solve for the mean, mode, median, and range of given set of numbers
L17	Graphs and Probability	Review line graphs, bar graphs, and comparison ba graphs Complete function tables Graph the solutions to functions on a coordinate graph Solve for simple probabilit
6 FORMULAS AND GEOMETRY		
L1	Area, Perimeter, and Square Roots	Review the formulas for area and perimeter of variou geometric figures Identify the square root of the given perfect squar numbers Use the divide and average method to determine th approximate square root of non-perfect square numbers
L2	Circumference and Area of Circles	Calculate the area of circles Calculate the perimeter of circles
L3	Triangle, Pythagorean Theorem	Calculate the area and perimeter of triangle Determine the unknown length of a side of a triangl using the Pythagorean theorem
L4	Types of Quadrilaterals	Identify geometric figures as parallelograms trapezoids, or rhombbuses Calculate the area and perimeter of parallelograms trapezoids, and rhombbuses Convert squared units of measur
L5	Rectangular Solids	Calculate surface area and volume of rectangula solids Convert cubic units of measur
L6	Pyramids and Prisms	Calculate the surface area of prism Calculate the lateral area of prism Calculate the volume of prism
L7	Solid Figures	Calculate the volume, surface area, and the later area for cylinders, cones, and spheres
L8	Using a Calculator to Determine Geometric Measures	Use a calculator to solve geometric problems
L9	Translations	Review the concepts of reflection, rotation, an tesselations

7 INTEGERS		
L1	Introduction to Integers	Identify integers Compare integers using greater than and less than
L2	More Integers	Order integers from greatest to leas Find the absolute value of a given intege Compare the absolute value of two given integer using greater than and less than Add the absolute value of a set of integer
L3	Plotting Points on a Cartesian Plane	Graph points on a Cartesian plane Identify the number pair for a given point on a Cartesian plane
L4	More About Integers	Graph points on a Cartesian plan Identify the number pair for a given point on a Cartesian plane
L5	Plotting	Graph points on a Cartesian plane to create a geometric shape
L6	Introduction to Adding Integers	Add integers
L7	Addition of Integers	Add integers
L8	Rules and Properties of Addition	Add integers
L9	Subtraction of Integers	Subtract integers
L10	More Subtraction of Integers	Subtract integers
L11	Multiplication of Integers	Multiply integers
L12	Integers and Exponents	Find the value of a powe
L13	Division	Divide integers

8 THE VARIABLE		
L1	Commutative Properties	Solve equations using the Commutative Property o Addition Solve equations using the Commutative Property o Multiplication
L2	Associative Properties	Solve equations using the Associative Property o Addition Solve equations using the Associative Property o Multiplication
L3	Variables in Formulas	Solve for unknown variable
L4	Variables: Combining Like Terms	Combine like terms to solve for unknown variable Simplify expressions using the Distributive Property o Multiplication over Addition
L5	Distributive Property	Simplify expressions using the Distributive Property o Multiplication over Subtraction
L6	Multiplying Binomials	Identify monomials and binomial Simplify binomials using the Distributive Property o Multiplication over Addition Simplify binomials using the Distributive Property o Multiplication over Subtraction Simplify binomials using the F.O.I.L. metho
L7	Addition Property of Equality	Solve for unknown variables using the Addition Property of Equality
L8	Subtraction Property of Equality	Solve for unknown variables using the Subtraction Property of Equality
L9	Multiplication Property of Equality	Solve for unknown varibles using the Multiplication Property of Equality
L10	Division Property of Equality	Solve for unknown variables using the Division Property of Equality
L11	Combination of Terms Equations	Solve equations by combining like terms and using th Addition, Subtraction, Multiplication and Division Properities of Equality
L12	Problem Solving Phrases	Translate words into algebraic phrase
L13	Sentences to Equations	Translate words into algebraic sentence
L14	Problem Solving	Translate words into algebraic sentence Solve for the unknown variabl
L15	More Problem Solving	Use problem solving to identify a set of consecutive integers Use problem solving to determine the age of two o more given persons
L16	Proportion Problems	Solve word problems using proportion

9 STATISTICS, GRAPHS, AND PROBABILITY		
L1	Statistics: Mean	Calculate the mean of a given set of number
L2	Median and Mode	Identify the median of a given set of number Identify the mode of a given set of number
L3	Deviation or Spread; Frequency Distribution	Calculate the range of a given set of numbers Identify the mean, mode, and median of a given set o numbers
L4	The Pictograph and Bar Graph	Read bar graphs Read pictographs
L5	Line Segment Graph, Histogram, and Frequency Polygon	Read line graphs Read histograms Read graphs that show frequency distribution
L6	More About Bar Graphs and Line Segment Graphs	Read double bar graphs Read double line graphs
L7	Number Patterns and Functions	Determine numbers in a Fibonacci sequenc Determine numbers in a Pascal's triangl Calculate missing numbers in a given functio
L8	Coordinate Graphs	Identify the domain and range for a set of ordere pairs Identify the ordered pair answers for a given function Graph ordered pairs on a Cartesian plan Identify the slope and the line intercept of a linea equation

10 PRE-ALGEBRA REVIEW		
L1	Integers, Absolute Value, and Cartesian Planes	Review comparing integers Review identifying integers Review the absolute value of given intege Review addition and subtraction of the absolute valu of given integers Review plotting points on a Cartesian plan
L2	Adding and Subtracting Integers	Review addition of integers Review subtraction of integers
L3	Multiplying Integers	Review multiplying integers Find the solution to the indicated powe
L4	Dividing Integers	Review dividing integers
L5	Algebraic Expressions and Variables	Review solving equations containing variables
L6	Expressions, Variables, and Exponents	Review solving equations containing variables Review solving equations containing exponen
L7	More Expressions, Variables, and Exponents	Review solving equations containing variables Review solving equations containing exponen
L8	Graphing Algebraic Sentences	Review graphing the solution to an algebraic sentence
L9	Geometric Formulas and Square Roots	Review finding the perimeter, circumference, or area of given geometric shapes using a formula Review calculating the square root of a given number
L10	Area and Volume	Review finding the area of given geometric shape Review finding the volume of given geometric shapes
L11	Commutative and Associative Properties	Review identifying equations that represent use of th Commutative Property Review identifying equations that represent use of th Associative Property
L12	Solving Equations	Review simplifying algebraic expressions by combining like terms Review simplifying algebraic expressions using the Distributive Property of Multiplication Review solving for the value of a variable in a algebraic sentence
L13	Applications	Review translating words into algebraic sentence Review solving word problems using algebrai sentences

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Unit Number and Title	Lesson Title	Lesson Objectives
1 ALGEBRA I: VARIABLES AND INTEGERS		
L1	Introduction	Restate basic math history facts Solve simple arithmetic review
L2	Deductive Thinking	Add and subtract decimal numbers Recognize and apply axioms to simplify numerical expressions
L3	Multiplication Property	Use multiplication to simplify and evaluate expressions Identify the numerical coefficient
L4	Products	Use multiplication to simplify and evaluate expressions
L5	Exponents	Identify base and exponent Recognize and rewrite powers as repeated multiplication
L6	Evaluating Expressions	Evaluate algebraic expressions Use the order of operations
L7	Number Skills (Part 1)	Categorize numbers and distinguish between different types Add and subtract whole numbers
L8	Number Skills (Part 2)	Perform long division and multiplication, using rounding
L9	Fractions and Zero	Add, subtract, multiply and divide fractions and mixed numbers
L10	Percent	Translate freely between percent, decimal, and fraction Solve equations involving percent
L11	The Distributive Property	Use the distributive property to calculate numerical expressions Use the distributive property to find the indicated product of a numerical expression
L12	Variables	Use the distributive property to calculate algebraic expressions Use the distributive property to find the indicated product of an algebraic expression
L13	Simplifying Expressions	Simplify algebraic expressions
L14	Simplifying Like Terms	Simplify algebraic expressions by combining like terms where possible
L15	Simplifying Unlike Terms	Simplify algebraic expressions that contain two or more unlike terms
L16	Integers	Identify the opposite of a number on a number line Compare integers and locate positions on the real number line
L17	Integers: Addition	Add integers Add variable terms with integer coefficients Simplify and evaluate algebraic expressions with integer coefficients
L18	Integers: Subtraction	Subtract integers by adding the opposite Simplify and evaluate algebraic expressions with integer coefficients
L19	Integers: Multiplication	Find the products of integers
L20	Integers: Multiplication (Cont.)	Find the product of fractions Evaluate algebraic products
L21	Integers: Division	Divide numerical and algebraic expressions Evaluate algebraic quotients
2 ALGEBRA I: SOLVING EQUATIONS AND INEQUALITIES		
L1	Sentences and Formulas	Determine whether numerical sentences are true or false Use properties of 0 and 1 to evaluate expressions
L2	Absolute Value	Simplify and evaluate expressions with absolute value
L3	Sentences with Variables	Solve algebraic equations
L4	Sentences with Variables (Cont.)	Solve algebraic inequalities
L5	Formulas	Identify the appropriate formula for a given problem Solve for the unknown quantitiy using the appropriate formula
L6	Verbal Sentences	Translate verbal sentences to algebraic sentences
L7	Solving Equations: Addition Property	Solve equations by employing the addition property of equality
L8	Solving Equations: Multiplication Property	Solve equations by employing the multiplication property of equality
L9	Multistep Equations	Solve multiple-step equations using the multiplication and addition properties of equality

L10	Use of Parentheses	Review multiplication using the distributive property Solve multi-step equations using the distributive, addition, and multiplication properties
L11	Literal Equations	Solve literal equations for the indicated variable
L12	Solving Inequalities	Solve inequalities by inspection
L13	Addition and Multiplication Properties	Solve inequalities by employing the addition and multiplication properties of inequality
L14	Sentences with Absolute Value	Find graphical solutions for absolute value inequalities
3 ALGEBRA I: PROBLEM ANALYSIS AND SOLUTION		
L1	Problem Analysis and Solution	Translate verbal statements algebraically Analyze and solve word problems
	Sets and Problem Solving	Recognize and use set notation to describe sets Find intersections and unions of sets
L2	Solving Verbal Problems	Set up and solve equations to solve word problems
L3	Simple Verbal Problems	Use the four-step strategy to solve simple word problems.
L4	Using More Than One Unknown	Apply a four-step problem-solving strategy for word problems with more than one unknown
L4A	Geometry Problems	Apply a four-step problem-solving strategy to solve geometry word problems
L5	Problems Involving Money	Apply a four-step problem-solving strategy to solve money word problems
L6	Medium Verbal Problems	Apply a four-step problem-solving strategy to solve word problems
L7	Lever Problems	Apply a four-step problem-solving strategy to solve word problems
L8	Integer Problems	Apply a four-step problem-solving strategy to solve word problems
L9	Challenging Verbal Problems	Apply a four-step problem-solving strategy to solve word problems
L11	Mixture Problems and Review	Review problem-solving strategies
4 ALGEBRA I: POLYNOMIALS		
L1	Polynomials: Addition	Simplify polynomials by adding like terms
L2	Sums of Polynomials	Add polynomials
L3	Polynomials: Subtraction	Practice subtracting like terms
L4	Differences of Polynomials	Subtract polynomials
L5	Grouping Symbol	Simplify polynomials by removing grouping symbols and combining like terms
L6	Multiplication	Simplify polynomials by removing grouping symbols and combining like terms
L7	Products of Polynomials by Monomials	Find and simplify the product of a monomial and a polynomial Find the sum or difference of two or more polynomial/monomial products
L8	Products of Polynomials	Find and simplify the products of monomial expressions
L9	Division	Find and simplify the quotients of monomial expressions
L10	Division: Monomials	Practice finding and simplifying the quotients of monomial expressions
L11	Quotients of Polynomials	Find and simplify the quotients of polynomial expressions
5 ALGEBRA I: FACTORS		
L1	Factors	List factors of a numerical expression Find the greatest common factor of numerical expressions
L2	Literal Terms	List factors of an algebraic expression Find the greatest common factor of algebraic expressions
L3	Polynomial	Factor two or more polynomials by finding and separating the greatest common monomial factor
L4	FOIL and Binomial Factors (Part 1)	Practice multiplying binomials Factor trinomials into two binomials using the FOIL method
L5	FOIL and Binomial Factors (Part 2)	Practice factoring trinomials using the FOIL method
L6	Binomials	Recognize binomials that are the difference of two squares Factor binomials that are the difference of two squares

L7	Finding Complete Factorizations	Synthesize and apply the several techniques of factoring general trinomials
L8	Four Term Polynomials	Factor four-term polynomials
L9	Word Problems	Employ general polynomial factoring technique to solve word problems

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6 ALGEBRA I: ALGEBRAIC FRACTIONS		
L1	Operations	Reduce algebraic fractions to simplest terms Determine the excluded values for an algebraic fraction
L2	Adding and Subtracting Fractions	Find sums and differences of algebraic fractions with common denominators
L3	Least Common Denominators	Find sums and differences of algebraic fractions with unlike denominators
L4	Multiplying and Dividing Fractions	Find products and quotients of algebraic fractions
L5	Simplifying Complex Fractions	Simplify complex fractions
L6	Open Sentences	Solve equations that contain algebraic fractions Verify that the answer is not an excluded value
L7	Literal Equations	Manipulate literal equations to solve for any variable
L8	Solving Inequalities	Solve inequalities that have algebraic fractions
L9	Rewriting Formulas	Manipulate literal equations to solve for any variable
L10	Word Problems	Model a word problem by selecting or constructing an appropriate literal equation Solve the literal equation and interpret the result within the context of the word problem
L11	Quotient Remainder	Solve word problems involving division, addition, and subtraction

7 ALGEBRA I: RADICAL EXPRESSIONS		
L1	Real Numbers (Part 1)	Convert decimals to fractions Convert fractions to decimals
L2	Graphs and Order (1)	Order numbers as points on the real number line
L3	Properties: Closure and Density (1)	Locate the number that is a given ratio between two numbers
L4	Real Numbers (Part 2): Irrational Numbers	Categorize real numbers as rational or irrational Practice rounding real numbers
L5	Graphs and Order (2)	Locate irrational numbers on a number line Graph solutions to inequalities on a real number line
L6	Operations and Irrational Roots	Simplify both numerical and algebraic radicals
L7	Simplifying Radicals	Express irrational roots as simplified expressions Express irrational roots as rational decimal approximations
L8	Quotient Property	Use the quotient property to simplify quotients involving radicals
L9	Combining Radicals	Combine like radicals
L10	Multiplying Radicals	Multiply radical expressions Apply the distributive property to multiply radical expressions
L11	Dividing Radicals	Divide radical expressions Apply the distributive property when dividing radical expressions
L12	Rationalization of Denominators	Rationalize the denominator of an expression Simplify radical expressions to integral radicands (integers inside the radical)
L13	Equations	Solve equations that contain radical expressions
L14	Solving Radical Equations	Solve equations that contain radical expressions
L15	Literal Equations	Use algebra to isolate any variable in a literal equation
L16	Radicals and Exponents	Simplify radical expressions containing exponents that are fractional Simplify radical expressions with an exponent of zero

8 ALGEBRA I: GRAPHING		
L1	Using Two Variables	Find ordered pair solutions to two-variable equations when given one of the variables
L2	The Real Number Plane	Identify the origin, x axis and y axis on the real number plane Locate points on a real number plane
L3	Translations	Translate English descriptions into two-variable equations

L4	Applying Graphing Techniques-Part 1	Write linear equations in general form Write linear equations in slope-intercept form
L5	Applying Graphing Techniques-Part 2	Graph linear equations by finding the x and y intercepts
L6	Applying Graphing Techniques-Part 3	Find the slope of a linear equation Graph a linear equation using slope and one point on the line
L7	Applying Graphing Techniques-Part 4	Graph linear equations using the slope-intercept form
L8	Applying Graphing Techniques-Part 5	Graph linear inequalities
L9	Applying Graphing Techniques-Part 6	Graph absolute value equations (linear)
L10	Applying Graphing Techniques-Part 7	Graph absolute value inequalities
L11	Writing Equations of Lines-Part 1	Review the several methods of graphing linear equations
L12	Given the Graph	Find the equation of a line from its graph

9 ALGEBRA I: SYSTEMS		
L1	Graphical Solutions	Identify the number of solutions (intersections) for a system of two linear equations Determine the quadrant in which two lines intersect
L2	Graphs	Solve systems of linear equations by graphing Identify consistent, inconsistent, and equivalent systems
L3	Inequalities	Graph systems of linear inequalities
L4	Algebraic Solutions	Solve systems of linear equations by using the elimination method Solve systems of linear equations by the comparison method
L5	Substitution Method	Solve systems of linear equations by using the substitution method Calculate the determinant of a matrix
L6	Determinants	Solve systems of linear equations using the determinant method
L7	Word Problems	Solve word problems by translating into a system of equations Practice problem solving with algebraic stategies
L20	Scientific Notation	Rewrite decimal numbers using scientific notation Convert scientific notation to decimal numbers
L9	Graphs and Functions	Determine whether a given relation is a function Use functions to solve word problems
altL10	Mathematical Induction	Prove math statements by mathematical induction

10 ALGEBRA I: QUADRATIC EQUATIONS AND REVIEW		
L1	Quadratic Equations	Identify quadratic equations and equations that are not quadratic equations Write quadratic equations in general form
L2	Methods of Solving Quadratic Equations	Use the square root property to solve quadratic equations Solve quadratic equations by completing the square
L3	The Quadratic Formula	Solve a quadratic equation by using the quadratic formula Solve a quadratic equation by factoring
L4	Verbal Problems	Solve word problems by translating them into a quadratic equation and solving
L5	Review of Algebra (Part 1)	Review Unit 1: Variables and Integers Review Unit 2: Solving Equations and Inequalities Review Unit 3: Problem Analysis and Solution
L6	Review of Algebra (Part 2)	Review Unit 4: Polynomials Review Unit 5: Factors
L7	Review of Algebra (Part 3)	Review Unit 6: Algebraic Fractions Review Unit 7: Radical Expressions Review Unit 8: Graphing
L8	Review of Algebra (Part 4)	Review Unit 9: Systems Review Unit 10: Quadratic Equations

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Unit Number and Title	Lesson Title	Lesson Objectives
1 GEOMETRY: INTRODUCTION		
L1	Geometry and the World	Recognize and describe connections between geometry, the world, and God
L2	Nature of Mathematics	Restate important aspects of the nature of mathematics Explore the relationship between the real world and the world of ideas
L3	The History of Geometric Mathematics	Recognize contributions of past mathematicians Interpret the significance of major mathematical discoveries
L4	Geometry's Effect on Me	Develop an appreciation for the potential usefulness of geometry knowledge
L5	Mathematic System: Set Theory Review	Review and practice the rules of set theory Identify finite and infinite sets Identify subsets of a given set
L6	Mathematic System: Operations with Sets	Find the intersections and unions of sets (set operations) Solve word problems using set theory and set operations
L7	Geometry Undefined Terms: Points	List properties and characteristics of the undefined term "point"
L8	Geometry Undefined Terms: Lines	List properties and characteristics of the undefined term "line"
L9	Geometry Undefined Terms: Planes	List properties and characteristics of the undefined term "plane"
L10	Defined Terms: Definitions	Define segment, ray, and collinear Identify and name examples of segments, rays when prompted Indicate whether two lines are collinear or not
L11	Geometric Postulates	Apply postulates to solve word problems Identify characteristics of postulates
L12	Review of Algebraic Postulates	Review and practice the algebraic postulates
L13	Geometric Theorems	Recall and relate geometric theorems on points, lines, and planes
L14	Review of Properties of Algebra	Review properties of algebra
2 GEOMETRY: LOGIC		
L1	Logic and Reasoning	Know the fundamental principles of logic and reasoning
L2	History of Logic and Reasoning	Recall past discoveries and influential mathematicians
L3	Logic	Define and identify types of logical statements Recognize and use strategies of logic
L4	Conjunctions	Classify a conjunction as true or false Use a truth table to analyze conjunctions
L5	Disjunctions	Classify a disjunction as true or false Use a truth table to analyze disjunctions
L6	Negation	Classify a negation as true or false
L7	Conditional or Implication Statements	Use truth tables to judge conditional statements Solve problems using conditional statements
L8	Converse, Inverse, Contrapositive	Identify the converse, inverse, and contrapositive of conditional statements Determine if a statement is true or false
L9	Inductive Reasoning	Use inductive reasoning to draw reasonable conclusions Identify statements as inductive or not inductive
L10	Deductive Reasoning	Identify the major and minor premises of a syllogism Draw conclusions from premises
L11	Using Deductive Reasoning	Use deductive reasoning to prove basic theorems
L12	Proof Formats: Statement of the Theorem	Identify the essential parts of a two-column proof Rewrite statements in "if-then" form
L13	Proof Formats: The Figure	Identify the appropriate figure for a proof
L14	Proof Formats: The Given Information	Identify the "given" information in a two-column proof
L15	Proof Formats: To Prove Statement	Identify the statement to prove in a two-column proof
L16	Proof Formats: The Plan of the Proof	Describe several strategies for planning a proof Match statements with reasons
L17	Indirect Proof Format: The Paragraph Proof	Write the negation of a statement Prove some simple statements using the indirect method, or contradiction
3 GEOMETRY: ANGLES AND PARALLELS		
L1	Angle Definitions	Identify and describe acute, right, and obtuse angles Name an angle and its parts
L2	Angle Measurement	Use a protractor to measure angles Find the sum of angle measures
L3	Relationship Definitions	Define and identify adjacent angles Define and identify complementary angles Define and identify supplementary angles Define and identify vertical angles
L4	Angle Relationship Theorems (1)	Use theorems about adjacent, complementary, supplementary and vertical angles to answer questions and complete proofs
L5	Angle Relationship Theorems (2)	Use theorems about adjacent, complementary, supplementary and vertical angles to answer questions and complete proofs
L6	Construction: Copying Figures	Copy a figure by using mathematical construction techniques
L7	Construction: Bisecting Figures	Bisect figures by using mathematical construction techniques

L8	Basic Properties of Parallels	Define and describe properties of parallelism of lines Define and describe properties of parallelism of planes
L9	Transversals and Special Angles	Calculate angle measures using transversals Complete proofs by applying properties and theorems of tranversals
L10	More Proofs: Transversals and Special Angles	Define and identify exterior and interior angles Complete proofs using your knowledge of transversals
L11	Continued Proofs: Transversals and Special Angles	Define and identify exterior and interior angles Complete proofs using your knowledge of transversals
L12	More Proofs for Postulates 9 and 10	Practice proofs and questions that relate to parallels and transversals
L13	Construction: Perpendiculars	Construct a line that is perpendicular to another line at a given point
L14	Construction: Tangents to Circle	Construct a line that is tangent to a circle at a given point
L15	Construction: Parallels	Construct a line that is parallel to a given line
L16	Classifying Triangle by Sides and Angles	Identify triangles as scalene, isosceles, or equilateral Identify triangles as acute, obtuse, or equiangular
L17	Exterior/Remote Interior Angles of Triangle	Define exterior and remote interior angles of a triangle Find the measures of exterior and remote interior angles
L18	Proofs Involving Triangles	Define corollary Define auxiliary line Prove theorems and corollaries using auxilliary lines
L19	Other Polygons	Categorize a shape as a polygon or non-polygon Identify different kinds of polygons Find the angle measures of polygons Apply properties of polygons to solve problems
4 GEOMETRY: CONGRUENT TRIANGLES AND QUADRILATERALS		
L1	Defining Congruent Triangles	Define congruent triangles Identify corresoponding parts of congruent triangles Judge whether two triangles are congruent or not
L2	Proving Triangles Congruent (1)	Prove that triangles are congruent using side and angle postulates
L3	Proving Triangles Congruent (2)	Prove that triangles are congruent using side and angle postulates
L4	Proving Right Triangles Congruent	Prove that right triangles are congruent using the Hypotenuse-Leg Theorem
L5	Independent Triangles (1)	Prove that angles are congruent using triangle congruence theorems on non-overlapping triangles Prove that line segments are congruent using triangle congruence theorems on non-overlapping triangles
L6	Independent Triangles (2)	Prove that angles are congruent using triangle congruence theorems on non-overlapping triangles Prove that line segments are congruent using triangle congruence theorems on non-overlapping triangles
L7	Overlapping Triangles (1)	Prove that angles are congruent using triangle congruence theorems on overlapping triangles Prove that line segments are congruent using triangle congruence theorems on overlapping triangles
L8	Overlapping Triangles (2)	Prove that angles are congruent using triangle congruence theorems and properties of isosceles triangles Prove that line segments are congruent using triangle congruence theorems and properties of isosceles triangles
L9	Isosceles Triangles (1)	Prove that angles are congruent using triangle congruence theorems Prove that line segments are congruent using triangle congruence theorems Prove that angles are congruent using properties of isosceles triangles Prove that line segments are congruent using properties of isosceles triangles
L10	Isosceles Triangles (2)	Prove that line segments are congruent using triangle congruence theorems Prove that line segments are congruent using isosceles triangles Prove that angles are congruent using triangle congruence theorems Prove that angles are congruent using isosceles triangles
L11	Construction of Triangles 30-60-90	Construct 30-60-90 right triangles
L12	Construction of Triangles 45-45-90	Construct 45-45-90 right triangles
L13	Inequality Theorem in One Triangle Part1	Use angle measures to prove when one side of a triangle is longer than another side
L14	Inequality Theorem in One Triangle Part2	Use angle measures to prove when one side of a triangle is longer than another side
L15	Inequalities in Two Triangles	Determine when sides of two different triangles are equal Determine when one side of a triangle is greater than or less than another side
L16	Quadrilateral Parallelograms Theorems Part1	Use properties of parallelograms to prove statements
L17	Quadrilateral Parallelograms Theorems Part2	Use properties of parallelograms to prove statements
L18	Triangles that Use Parallelograms in Proofs	Use parallelograms to prove statements about triangles
L19	Parallelograms: Rectangles	Prove statements involving the rectangle
L20	Parallelograms: Rhombus	Prove statements involving the rhombus
L21	Trapezoids-Definitions and Proofs	Prove statements involving trapezoids

5 GEOMETRY: SIMILAR POLYGONS		
L1	Algebra and Ratios	Express ratios in their simplest forms Use geometric figures to find a ratio
L2	Algebra Properties and Proportions	Know the definition of a proportion Identify the means and extremes of a proportion Solve proportions in one variable, including in the context of word problems
L3	Properties of Proportions	Solve proportions in two variables Relate proportions to geometric figures
L4	Meaning of Similarity	Define similarity Identify similar triangles State key properties of similarity
L5	Meaning of Similarity-Theorems	Prove when triangles are similar Know important facts about similar triangles
L6	Meaning of Similarity-Proofs	Prove when triangles are similar Know important facts about similar triangles
L7	Theorems-Similar Polygons	Know facts about similar polygons Use facts about similarity to calculate side measures of similar polygons
L8	Theorems-Special Segments in Triangles	Find segment measure in triangles using special relationships and proportions
L9	Similar Right Triangles	Find the geometric mean of two numbers Use the altitude of a right triangle to create proportions Solve for unkown segment measures
L10	The Pythagorean Theorem	Solve for missing sides of a right triangle Determine whether 3 segments form a right triangle or not
L11	Theorem about 30-60-90 Right Triangles	Find the side measures of right triangles by applying special properties of 30-60-90 right triangles
L12	Theorem about 45-45-90 Right Triangles	Find the side measures of right triangles by applying special properties of 45-45-90 right triangles
L13	Using Triangles: Rectangular Solids	Apply the Pythagorean theorem when solving for parts of rectangular solids
L14	Using Triangles: Regular Square Pyramid	Identify the parts of a regular square pyramid Apply the Pythagorean theorem to solve for side lengths and other measures of a regular square pyramid
L15	Trigonometry-Sine Ratio	State the sine ratio of a given angle Use a table of sine values to solve for a missing value
L16	Trigonometry-Cosine Ratio	State the cosine ratio of a given angle Use a table of cosine values to solve for a missing value
L17	Trigonometry-Tangent Ratio	State the tangent ratio of a given angle Use a table of tangent values to solve for a missing value
L18	Using Similar Triangles in Indirect Measure	Use properties of similar triangles to measure lengths indirectly
L19	Using Trigonometry in Indirect Measure	Use properties of trigonometric ratios to measure lengths indirectly
6 GEOMETRY: CIRCLES		
L1	Characteristics of Circles	Identify and define the parts of a circle Calculate measures of parts of a circle
L2	Characteristics of Spheres	Identify and define the parts of a sphere Calculate measures and relate other basic shapes, such as circle and triangle, to solve problems involving spheres
L3	Tangents	Know and identify tangent lines Apply properties of tangent lines to answer questions involving circles and polygons
L4	Arcs	Define and identify major and minor arcs Use the definitions of major and minor arcs to find angle and arc measures
L5	Chords	Prove theorems that relate to tangents, arcs, and chords of a circle Practice finding the measures of major and minor arcs
L6	Theorems (1)	Prove theorems that relate to tangents, arcs, and chords of a circle Practice finding the measures of major and minor arcs
L7	Theorems (2)	Prove theorems that relate to tangents, arcs, and chords of a circle Practice finding the measures of segments and angles
L8	Special Angles Type 1	Identify and define inscribed and intercepted arcs Use properties of inscribed angles and intercepted arcs to solve problems and complete proofs
L9	Special Angles Type 2	Identify angles formed by intersecting secants Solve for angle and arc measures when secant lines intersect inside a circle
L10	Special Angles Type 3	Solve for angle and arc measures when secant lines intersect outside a circle
L11	Special Segments	Find the lengths of chords, secants, and tangents
L12	Construction: Circles	Construct a circle circumscribed by a triangle Construct a circle circumscribing a triangle

7 GEOMETRY: AREA AND VOLUME		
L1	Area Concepts of Polygons	Recognize that polygons can be broken into non-overlapping triangles Find the area of a polygon by breaking it into triangles
L2	Area of Rectangles	Find the area of a rectangle Solve problems involving areas of rectangles
L3	Area of Parallelograms	Find the area of a parallelogram Solve problems involving areas of paralelograms
L4	Area of Triangles and Rhombbuses	Find the area of a triangle Find the area of a rhombus
L5	Area of Trapezoids	Find the area of a trapezoid
L6	Area of Regular Polygons	Define and identify regular polygons Find the area and other measures of regular polygons
L7	Area Comparison of Polygons	Find area and linear measures such as side length of regular polygons that are similar
L8	Construction: Polygons	Construct a rectangle, parallelogram, hexagon, and octagon
L9	Circles: Circumference and PI	Find the circumference of a circle when given the radius Find the radius of a circle when given the circumference
L10	Circles: Area of Circles	Find the area of a circle Find the area of a circle that is similar to another circle
L11	Circles: Area of Sectors	Find the area of a sector, or "slice" of a circle Find the arc length of a sector
L12	Circles: Area of Segments	Find the area of a segment of a circle Find the area of unusual shapes using the areas of sectors and segments
L13	Solids: Prisms	Find the surface area and volume of a prism
L14	Solids: Pyramids	Find the surface area and volume of a pyramid
L15	Solids: Cylinders	Find the surface area and volume of a cylinder
L16	Solids: Cones	Find the surface area and volume of a cone
L17	Solids: Spheres	Find the surface area and volume of a sphere
L18	Construction: Dividing a Segment	Divide a segment into a given number of equal segments
L19	Construction: 4th Proportion	Construct a line segment that is in proportion to the other three
L20	Construction: Geometric Mean	Construct a line segment that is the geometric mean of two given line segments
8 GEOMETRY: COORDINATE GEOMETRY		
L1	Ordered Pairs: Points in a Plane	Plot points on a coordinate plane
L3	Graphs of Algebraic Sentences	Review and practice graphing linear equations Review and practice graphing linear inequalities
L4	Distance Formula	Review and practice using the distance formula to find the distance betwwen two points Find the lengths and perimeters of geometric shapes by using the distance formula
L5	Equation of a Circle	Find equation for a circle in the coordinate plane
L6	Midpoint Formula	Find the midpoint of line segments Solve problems by using the midpoint formula
L7	Slope	Calculate slope of a line Test points to determine whether they are collinear (on the same line)
L8	Parallel and Perpendicular Lines	Determine if lines are parallel, perpendicular, or neither (skew) Use properties of lines to prove theorems
L9	Equations of Lines	Find the equation of a line given two points Find the equation of a line given a point and a slope
L10	Figures in the Coordinate Plane	Find properties and measures of shapes using the coordinate plane Use coordinate techniques to prove geometric statements
L11	Proofs with Coordinate Geometry (1)	Prove theorems about plane figures using coordinate geometry
L12	Proofs with Coordinate Geometry (2)	Prove theorems about plane figures using coordinate geometry
9 GEOMETRY: TRANSFORMATIONS		
L1	Introduction: Rigid Motion, or Isometry	Define isometry and the three types of rigid motion Find the image points of a shape after a rigid motion
L2	Isometry: Reflection	Find the image of a shape after a reflection
L3	Isometry: Translation	Find the image of a shape after a translation
L4	Isometry: Rotation	Find the image of a shape after a rotation
L5	Dilation: Congruence and Similarity	Tell the difference between a contraction and an expansion Find the image of points after a dilation
L6	Product Transformation	Find the result of combining multiple transformations
L7	Inverse and Identity Transformation	Identify the inverse of a transformation
L8	Symmetry	Find points of symmetry Find lines of symmetry Find planes of symmetry
10 GEOMETRY REVIEW		
L1	History of Geometry	Review Unit 1 (Geometry: Introduction)
L2	Geometry as a System	Review Unit 2 (Geometry: Logic)
L3	Geometry Proofs	Review Unit 2 (Geometry: Logic)
L4	Angle Relationships and Parallels	Review Unit 3 (Geometry: Angles and Parallels)
L5	Congruent Triangles and Quadrilaterals	Review Unit 4 (Geometry: Congruent Triangles and Quadrilaterals)
L6	Similar Polygons	Review Unit 5 (Geometry: Similar Polygons)
L7	Circles	Review Unit 6 (Geometry: Circles)
L8	Area and Volume	Review Unit 7 (Geometry: Area and Volume)
	Coordinate Geometry	Review Unit 8 (Geometry: Coordinate Geometry)

MATH 1100

Unit Number and Title	Lesson Title	Lesson Objectives
1 ALGEBRA II - SET, STRUCTURE, AND FUNCTION		
L1	Properties of Sets	Find the subsets of a set Count the number of elements in a set
L2	Operations of Sets	Find the intersection of two sets Find the union of two sets
L3	Structure: Axioms	Review the axioms and properties of Algebra Review the mathematical operations (+, -, *, /)
L4	Structure: Applications	Review the distributive property and order of operations
L5	Relations and Functions: Definitions	Identify functions and relations, and tell the difference between them Find the domain and range of a function
L6	Relations and Functions: Graphs	Determine whether or not a given graph represents a function Match a set of ordered pairs with its graph
L7	Relations and Functions: Function Notation	Evaluate a function at any point
L8	Relations and Functions: Inverses	Find the inverse of a function or set of ordered pairs
L9	Algebraic Expressions: Exponents Part 1	Write exponents in expanded (non-exponential) form
L9a	Algebraic Expressions: Exponents Part 2	Evaluate expressions, including negative and zero exponents
L10	Multiplication and Division Part 1	Review exponent rules for multiplication and division of like bases
L10a	Multiplication and Division Part 2	Review exponent rules for multiplication and division of like bases
L11	Exponents of Exponential Expressions	Review exponent rules for exponentiation of powers
L12	Algebraic Expressions: Combining Terms	Review the process of simplifying expressions and combining like terms
2 ALGEBRA II - NUMBERS, SENTENCES, AND PROBLEMS		
L1	Number Order and Absolute Value	Solve absolute value equations Use equal, greater than, and less than signs to order numbers
L2	Sums and Products	Review addition and multiplication of signed numbers
L3	Solving Equations	Review and practice solving linear equations with the addition property
L4	Multiplication Property	Review and practice solving linear equations with the multiplication property
L5	Multi-step Equations	Solve linear equations using both multiplication and addition properties
L6	Equations with Parentheses	Solve equations with parentheses by using the distributive property

L7	Literal Expressions	Substitute values to evaluate literal expressions Solve literal equations
L8	Solving Inequalities	Solve linear equalities Differentiate between the multiplication property of inequality and the multiplication property of equality
L9	Graphing Solution Sets for Inequalities	Graph the solution sets for inequalities
L10	Compound Sentences	Solve absolute value inequalities Graph compound inequalities
L11	Number Problems	Solve word problems with whole numbers
L12	Motion Problems	Solve problems involving rate, distance, and time
L13	Miscellaneous Problems	Solve practical real-world problems

3 ALGEBRA II - LINEAR EQUATIONS AND INEQUALITIES

L1	Line Graphs	Evaluate two-variable equations and find ordered pairs Identify linear and nonlinear equations
L2	Line Graphs by Two Points	Graph linear equations Determine if two lines are parallel, perpendicular, or skew
L3	Slope of Lines Part 1	Compute the slope of a line
L4	Slope of Lines Part 2	Use the slope of a line to calculate missing coordinates Find collinear points
L5	Equations: Point Slope Part 1	Use the point-slope technique to find the equation of a line from its graph
L5b	Equations: Point Slope Part 2	Use the point-slope technique to find the equation of a line from its graph
L5c	Equations: Point Slope Part 3	Find the equation of a line when given two points on the line
L6	Equations: Slope-Intercept	Write equations of a line in slope-intercept form
L7	General Equation of a Line	Write linear equations in general form Find the x and y intercepts by inspecting the general form of a line
L8	Solutions for Systems of Equations	Solve a system of two equations using graphical methods
L9	Solutions by Addition	Solve a system of two equations by using the addition property of equality
L10	Solutions by Multiplication and Addition	Solve a system of two equations by using the addition and multiplication properties of equality
L11	Solutions by Substitution	Solve a system of two equations by using the substitution property of equality
L12	Application of Systems of Equations	Apply your knowlegde of systems of equations to solving word problems
L13	Solving Inequalities	Graph the solution sets for linear inequalities
L14	Solving Two-order Inequalities	Graph the solution sets for linear inequalities

4 ALGEBRA II - POLYNOMIALS		
L1	Products and Factoring	Simplify product expressions
L1a	Multiplying Polynomials by Polynomials	Multiply binomials and trinomials
L2	Using Special Products Part 1	Find special products such as the perfect square trinomial Find the difference of two squares
L2a	Using Special Products Part 2	Find the product of the sum of two perfect cubes Find the product of the difference of two perfect cubes
L3	Factoring Trinomials	Factor trinomials
L4	Factoring Special Products Part 1	Factor trinomials using the difference of two squares
L4a	Factoring Special Products Part 2	Factor trinomials using the difference of two cubes
L5	Addition and Subtraction Operations	Add and subtract polynomials
L6	Division with Polynomials	Perform long division of polynomials
L7	Synthetic Division	Use shorthand 'synthetic' division to divide two polynomials
L8	Direct Variation	Solve word problems that involve direct variation of two quantities
L9	Inverse Variation	Solve word problems that involve inverse variation of two quantities
L10	Joint and Combined Variation	Solve word problems that involve joint or combined variation of three quantities

5 ALGEBRA II - ALGEBRAIC FRACTIONS		
L1	Multiplying and Dividing with Fractions	Simplify algebraic expressions Evaluate algebraic expressions
L2	Reducing Rational Expressions	Simplify algebraic expressions Reduce fractions
L3	Multiplying Algebraic Fractions	Multiply algebraic expressions
L4	Dividing Algebraic Fractions	Divide algebraic expressions
L5	Adding and Subtracting Algebraic Fractions	Find the common denominator of algebraic fractions Add and subtract fractions
L6	Addition and Subtraction	Add and subtract algebraic fractions
L7	Mixed Expressions and Complex Fractions	Change mixed numbers to simple algebraic fractions Change complex fractions to simple algebraic fractions
L8	Equations with Fractions	Solve equations that contain algebraic fractions

L9	Fractional Equations	Solve equations that contain variables in the denominator of a fraction
L10	Proportions	Solve proportions of algebraic equations that have one variable
L11	Applications of Fractions	Use skills of working with algebraic fractions to solve word problems
L12	Mixture Problems	Solve mixture problems
L13	Work Problems	Solve problems that involve the measurements of 'Work' energy

6 ALGEBRA II - REAL NUMBERS		
L1	Real Numbers	Identify a number as Rational or Irrational Write the fractional equivalent of a Rational decimal number
L2	Law of Radicals	Change a radical expression to the equivalent expression with fractional exponents Evaluate and simplify radical expressions and fractional exponent expressions
L3	Conjugates	Define a conjugate Use conjugates to rationalize the denominator of an algebraic expression
L4	Radical Equations	Determine whether or not a radical equation has solution(s)
L5	Quadratic Equations	Solve quadratic equations
L6	Factoring Quadratic Equations	Solve quadratic equations by the factoring method
L7	Completing the Square	Solve quadratic equations by completing the square
L8	Quadratic Formula	Derive the quadratic formula Use the quadratic formula to solve quadratic equations
L9	Word Problems Using the Quadratic Formula	Solve word problems by setting up and solving a quadratic equation using the quadratic formula
L10	Sum and Product of Roots	Determine the sum and product of the roots of a quadratic equation Solve for the missing root of a quadratic equation
L11	The Discriminant	Find the discriminant of a quadratic equation Use the discriminant to determine what kinds of solutions a quadratic equation has
L12	Imaginary Numbers	Simplify imaginary expressions Simplify complex numbers

7 ALGEBRA II - QUADRATIC RELATIONS AND SYSTEMS		
L1	Distance Formula	Use the distance formula to find the distance between two points
L2	Circle	Find the radius of a circle from its equation Find the center of a circle from its equation Write the equation of a circle, given its center and radius
L3	Ellipse	Find the length of the major axis of an ellipse Find the length of the minor axis of an ellipse
L4	Ellipse Continued	Find the equation of an ellipse Graph an ellipse given an equation Find the foci of an ellipse
L5	Conic Sections: Parabola	Graph a parabola Find the directrix of a given parabola Find the focus of a given parabola

L6	Conic Sections: Parabola Continued	Determine the direction in which a parabola opens Find the quadrant(s) in which a parabola resides
L7	Conic Sections: Hyperbola	Graph a hyperbola Write the equation of a hyperbola
L8	Conic Sections: Hyperbola Continued	Find the equation of a hyperbola Graph a hyperbola
L9	Identifying Conic Sections	Identify a quadratic equation as a circle, parabola, hyperbola, or ellipse
L10	Systems of Equations	Solve a system of equations
L11	Systems of Inequalities	Graph the solution to a system of inequalities
L12	Applications of Conic Sections	Find the equation of a hyperbola that represents a physical situation
L13	Applications Continued	Find the equation of a conic section that represents a physical situation
L14	Applications Continued Again	Find the equation of a hyperbola that represents a physical situation
L15	Constant of Proportionality	Find the conic section that represents a given physical situation
8 ALGEBRA II - EXPONENTIAL FUNCTIONS		
L1	Exponential Functions	Evaluate exponential functions Simplify exponential functions
L2	Fractional Exponents	Evaluate expressions with fractional exponents Simplify expressions with fractional exponents
L3	Exponential Equations	Solve exponential equations
L4	Graphing Exponential Functions	Complete ordered pairs for an exponential function
L5	Exponential Applications	Solve application word problems with exponential equations
L6	Logarithmic Functions	Express an exponential equation in logarithmic form Express a logarithmic function in exponential form
L7	Evaluation of Logarithms	Evaluate logarithmic functions
L8	Mantissas	Find common logarithms Use the mantissa to evaluate logarithmic expressions
L9	General Properties of Logarithms	Use the properties of logarithms to rewrite a logarithmic expression in a different form
L10	Scientific Notation	Express decimal numbers in scientific notation
L11	Calculation of Common Logarithms	Use tables to evaluate common logarithms Use tables to evaluate an antilog
L12	Graphs of Logarithmic Functions	Complete ordered pairs for a logarithmic function Graph a logarithmic function
L13	Computation with Logarithms	Compute mathematical expressions using logarithms Solve equations using properties of logarithms
L14	Logarithmic Applications	Solve word problems using logarthmic functions
L15	Matrices	Identify entries in a matrix by row and column
L16	System Solutions with Matrices	Use the matrix method to solve a system of equations
L17	Addition and Multiplication of Matrices	Perform addition of matrices Perform subtraction of matrices
L18	Interpretations Using Matrices	Use matrices to interpret situations and solve application problems

9 ALGEBRA II - COUNTING PRINCIPLES		
L1	Progressions: Sequences	Indicate the general term of a sequence Find the nth term in a sequence
L2	Progressions: Series	Differentiate between a finite and an infinite series Differentiate between an arithmetic and a geometric series
L3	Permutations: Factorials	Evaluate factorial expressions
L4	Permutation Formula	Define permutation Calculate the number of permutations of r elements from a set of n elements
L5	Permutations: Applications	Use permutations to solve application problems
L6	Combination Formula	Calculate the number of combinations of r elements from a set of n elements
L7	Combinations: Applications	Use combinations to solve application problems
L8	Combinations: Binomial Coefficients	Find powers of binomials with Pascal's triangle Demonstrate knowledge of the pattern of Pascal's triangle
L9	Probability: Concepts	Explore the uses and limitations of probability theory Calculate probabilities in single-step experiments
L10	Probability: Equally Likely Outcomes	Define the counting principle Use the counting principle to calculate the probability of complex events
L11	Probability: Multiplication Principle	Define independent and dependent events Use the multiplication principle to calculate the probability of complex events
L12	Conditional Probability	Use conditional probability to calculate the probability of events

10 ALGEBRA II - REVIEW		
L1	Integers	Restate the axioms of algebra Identify terms about graphing functions
L2	Integers Continued	Find the intersection and union of sets Evaluate functions Simplify exponential expressions, including exponential expressions
L3	Open Sentences	Restate axioms and terms of algebra Simplify numerical expressions, including absolute value
L4	Open Sentences Continued	Solve linear equations and inequalities Solve absolute value equations and inequalities
L5	Graphs	Restate definitions of graphing Find the equation of a line Write the equation of a line in standard form
L6	Graphs Continued	Graph linear equations Solve a system of linear equations Graph linear inequalities Solve word problems with systems of equations
L7	Polynomials	Find the product of polynomial expressions

L8	Polynomials Continued	Factor polynomials Divide polynomials by long division Divide polynomials with synthetic division Add and subtract polynomials Solve direct and joint variation problems
L9	Algebraic Fractions Part 1	Simplify algebraic expressions Find the exclusions for a rational expression
L10	Algebraic Fractions Part 2	Add and subtract rational expressions Multiply and divide rational expressions
L10a	Algebraic Fractions Part 3	Simplify mixed expressions Simplify complex expressions Solve equations with mixed and complex expressions
L11	Real Numbers	Simplify radical expressions Solve radical equations
L12	Real Numbers Continued	Solve quadratic equations Solve quadratic equations by completing the square Solve quadratic equations by the quadratic formula Simplify complex and imaginary expressions
L13	Quadratic Relations and Systems	Identify the type of conic section from its equation
L14	Quadratics Continued	Identify the equation of a conic section Identify the coordinates of characteristics of conic sections Solve systems of quadratic and linear equations
L15	Exponential Functions	Add and subtract matrices Simplify expressions with zero and negative exponents Graph exponential equations
L16	Exponential Functions Continued	Evaluate logarithms Write exponential equations in logarithmic form Multiply matrices Solve a system of linear equations
L17	Counting Principles	Find the nth term of a sequence Identify a sequence as arithmetic or geometric Identify a series as finite or infinite
L18	Counting Principles Continued	Calculate permutions and combinations Represent a series as a summation Find probabilities Find conditional probabilities

MATH 1200

Unit Number and Title	Lesson Title	Lesson Objectives
1 PRECALCULUS: RELATIONS AND FUNCTIONS		
L1	Ordered-Pair Numbers: Relations	List the domain and range of a given relation Find or complete ordered pairs of a given relation
L2	Ordered-Pair Numbers: Functions	List the domain and range of a given function Find or complete ordered pairs of a given function
L3	Ordered-Pair Numbers: Rules of Corres.	Determine whether a set of ordered pairs represents a linear or quadratic function Find the rule for a function or relation when given a set of ordered pairs
L4	Algebra of Functions: Notation	Know the difference between the dependent and independent variable Evaluate functions at different domain values
L5	Algebra of Functions: Arithmetic	Add, subtract, multiply, and divide functions
L6	Algebra of Functions: Composition	Write the composition of two functions Evaluate a function whose domain is another function
L7	Algebra of Functions: Inverse	Find the inverse of a function
2 PRECALCULUS: FUNCTIONS		
L1	Linear Functions: Graphs	Graph functions Find the 'roots' of functions Find the x- and y-intercepts
L2	Linear Functions: Equations	Find the slope of a linear equation Write the function that satisfies given conditions
L3	2nd-Degree Functions: Solutions	Solve quadratic equations by factoring Solve quadratic equations with the Quadratic Formula
L4	Relationships Between Zeros and Coefficients	Determine the types of solutions of a quadratic equation Find missing information about quadratics by using the relationships of coefficients and roots Graph quadratic equations
L5	Quadratic Inequalities	Solve quadratic inequalities Graph quadratic inequalities
L6	Polynomial Functions	Use synthetic division to divide polynomials Determine if one polynomial is a factor of another
L7	Nth-Degree Equations	Find the roots of polynomial functions Find upper and lower limits for the roots of polynomial functions
L8	Greatest Integer Function	Graph the greatest integer function
L9	Exponential Function	Graph the exponential function
L10	Logarithmic Function	Graph a logarithmic function Find the inverse of a logarithmic function
L11	Function Combinations	Graph compositions of functions

3 PRECALCULUS: TRIGONOMETRIC FUNCTIONS		
L1	Definition of the Trigonometric Functions	Know basic properties of the trigonometric functions Name and define the trigonometric functions
L2	Evaluation of Functions	Recognize the graph of a trigonometric value
L3	Angle Location	Find the quadrant in which a given angle resides
L4	Reduction Formulas	Reduce a large angle to its corresponding acute angle Evaluate trigonometric functions using angle reduction formulas
L5	Quadrantal Angles	Define a quadrantal angle Convert a trigonometric expression to the corresponding expression with a positive acute angle
L6	Special Angles	Define special angles Use the properties of the special angles to evaluate trigonometric functions
L7	Radian Measure	Define the radian Convert angle measures in degrees to radians

4 PRECALCULUS: CIRCULAR FUNCTIONS AND THEIR GRAPHS		
L1	Circular Functions	Use the unit circle to find the positions of points and angle measures
L2	Circular Functions of Special Angles	Convert angle measures in degrees to angle measures in radians Add, subtract, and multiply trigonometric expressions
L3	Graphs of Sin and Cos	Graph the sine and cosine functions Find the range and domain of the sine and cosine functions
L4	Other Graphs	Graph the tangent, cotangent, secant, and cosecent functions Find the range and domain of the tangent, cotangent, secant, and cosecent functions
L5	Applications	Find arc length and angular velocity when solving application problems
L6	Amplitude of Circular Functions	Define the amplitude of a circular function Find the amplitude of a circular function
L7	Period of Circular Functions	Define the period of a circular function Find the period of a circular function
L8	Phase Shift of Circular Functions	Define the phase shift of a circular function Find the phase shift of a circular function

5 PRECALCULUS: IDENTITIES AND FUNCTIONS OF MULTIPLE ANGLES		
L1	Reciprocal Relations	Give the definition of an identity Use reciprocal relation identities to simplify expressions and solve equations
L2	Pythagorean Relations	Use Pythagorean relation identities to simplify expressions
L3	Quotient Relations	Use quotient relation identities to simplify expressions
L4	Trigonometric Identities	Use trigonometric relation identities to simplify expressions
L5	Cosine of the Sum of Two Angles	Use reciprocal relation identities to simplify expressions
L6	Additional Sum and Difference Formulas	Use sum and difference formulas to simplify expressions
L7	Double- and Half-Angle Formulas	Use double- and half-angle formulas to simplify expressions
L8	Identities	Simplify expressions using any of the trigonometric identities studied so far
L9	Trigonometric Equations	Solve equations using any of the trigonometric identities studied so far

6 PRECALCULUS: APPLICATION OF TRIGONOMETRIC FUNCTIONS		
L1	Trigonometric Functions of Any Angle	Find the sine, cosine, and tangent associated with a given coordinate
L2	More Trigonometric Functions of Any Angle	Find the missing value in a right triangle problem Use right triangles in application problems
L3	Applied Problems	Use trigonometry to solve application problems
L4	Law of Cosines	Use the law of Cosines to solve for missing values
L5	Law of Sines	Use the law of Sines to solve for missing values
L6	More Applications	Solve more application problems
L7	Inclined Plane Application	Solve inclined plane applications with forces
L8	Navigation Application	Use trigonometry to solve navigation problems

7 PRECALCULUS: INVERSE TRIGONOMETRIC FUNCTIONS AND POLAR COORDINATES		
L1	The Inverse Sine Function	Find the solutions of inverse sine functions Simplify inverse sine expressions Find solutions with restricted domain
L2	The Inverse Cosine Function	Find the solutions of inverse cosine functions Simplify inverse cosine expressions Find solutions with restricted domain
L3	The Inverse Tangent Function	Find the solutions of inverse tangent functions Simplify inverse tangent expressions Find solutions with restricted domain
L4	Other Inverse Functions	Find the solutions of other inverse trigonometric functions Simplify other inverse trigonometric expressions Find solutions with restricted domain
L5	Graphs of Inverse Functions	Graph inverse trigonometric functions Identify the domain and range Find the principal value of an inverse trigonometric expression
L6	Graphing Polar Coordinates	Graph points using polar coordinates
L7	Converting Coordinates	Convert polar coordinates to Cartesian coordinates Convert Cartesian coordinates to polar coordinates
L8	Converting Cartesian Equations to Polar Equations	Convert Cartesian equations to polar equations
L9	Converting Polar Equations to Cartesian Equations	Convert polar equations to Cartesian equations
L10	Graphing Polar Equations	Graph polar equations

8 PRECALCULUS: QUADRATIC EQUATIONS		
L1	The Circle	Find the equation of a circle in standard form Find the center and radius form the equation of a circle
L2	The Circle Continued	Find the equation of a circle in general form Find the domain and range
L3	Equation from Three Points	Find the equation of a circle when given three points on the circle
L4	Equation from Three Points Applied	Find the equation of a circle in applied situations
L5	The Ellipse	Find the properties of an ellipse Write the standard equation of an ellipse
L6	The Ellipse: Standard Form	Find the properties of an ellipse Write the standard equation of an ellipse
L7	The Ellipse: General Form	Find the properties of an ellipse Write the general equation of an ellipse
L8	The Ellipse Applied	Find the equation of an ellipse in applied situations
L9	The Parabola	Find the properties of a parabola Graph a parabola
L10	The Parabola Continued	Find the properties of a parabola Graph a parabola
L11	The Parabola: Standard Form	Find the properties of a parabola Graph a parabola Write a parabola in standard form
L12	The Parabola Applied	Use the parabola to solve application problems
L13	The Hyperbola	Find the properties of a hyperbola
L14	Translation	Translate points in the Cartesian coordinate plane
L15	Translation of Equations	Find the center of a conic section and translate the origin to that center
L16	Rotation	Find the image of a point with respect to a rotation
L17	Rotation of Equations	Find the image of an equation with respect to a rotation

9 PRECALCULUS: PROBABILITY		
L1	Definitions, Sample Spaces, and Probability	Find the probability of an event
L2	Addition of Probabilities	Compute the addition of a probability problem
L3	Multiplication of Probabilities	Compute and interpret the multiplication of probabilities
L4	Definitions	Calculate permutations Calculate combinations
L5	Permutation of N Things: Different	Calculate the permutation of n different things
L6	Permutation of N Things: Not All Different	Calculate the permutation of n things in r classes
L7	Circular Permutations	Calculate circular permutations
L8	Combinations	Calculate combinations

10 PRECALCULUS: CALCULUS AND REVIEW		
L1	Summation	Write the terms of a summation Evaluate a summation
L2	Proofs by Mathematical Induction	Complete proofs using mathematical induction
L3	Functional Notation	Evaluate functions
L4	Difference Quotient	Given a function, find the difference quotient
L5	Limits	Evaluate the limit of a function at a point
L6	Slope of a Line	Use the limit definition to find the slope of a line
L7	Slope of a Curve	Use the limit definition to find the slope of a curve
L8	Review Mathematics 1201 and 1202	Review Unit 1 Review Unit 2
L9	Review Mathematics 1203 and 1204	Review Unit 3 Review Unit 4
L10	Review Mathematics 1205 and 1206	Review Unit 5 Review Unit 6
L11	Review Mathematics 1207 and 1208	Review Unit 7 Review Unit 8
L12	Review Mathematics 1209 and 1210	Review Unit 9 Review Unit 10