Mathematics 300

Unit	Lesson Title	Lesson Objectives
1 - WHOLE NUMBERS		
	Patterns: Digits and Number Words	Review number order. Review reading and writing numbers. Review reading and writing number words
	Place Value	Review place value for ones and tens. Use zero as a placeholder
	Single-Digit Addition	Practice addition facts
	Single-Digit Subtraction	Practice subtraction facts
	Addition Problems	Practice two-digit addition
	Subtraction Problems	Practice two-digit subtraction
	Numbers on a Number Line	Use mental math to add and subtract
	Pattern for Expanded Notation	Practice number order. Write numbers in expanded notation form
	Adding Multi-digit Numbers	Add three-digit numbers. Add numbers in a column
	Subtracting 3-Digit Numbers	Subtract three-digit numbers
	Measurement	Identify units of measure. Measure with a ruler and yardstick
	Operation Symbols	Identify operation symbols to solve number sentences
	Adding with Carrying	Add two-digit numbers with carrying
	Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers
	Standard Measurement for Time	Tell time using a face clock
	Calendar Time	Measure time on a calendar
	Unit Concept Review 1	Review addition and subtraction. Review operation symbols
	Unit Concept Review 2	Review digits, measurement, and time
	Practice: Addition and Subtraction	Review and practice addition with carrying. Review and practice subtraction with borrowing
2 - NUMBER PATTERNS		
	Family of Facts	Create addition and subtraction fact families
	Adding Ones, Tens, and Hundreds	Add two and three-digit numbers with and without carrying
	Subtracting Ones, Tens, and Hundreds	Subtract two and three-digit numbers without borrowing
	Place Value and Number Words	Identify place value to the hundreds place
	Addition with Carrying	Add three-digit numbers with carrying
	Skip Counting and Number Words	Practice reading and writing number words. Practice skip counting. Add numbers using mental math
	Skip Counting and Addition with Carrying	Find odd and even number patterns. Practice addition with carrying
	Fractions	Identify fractions from pictures. Read and write fractions
	Subtracting with Borrowing	Practice subtraction with borrowing
	Shapes	Identify flat and solid shapes
	Money	Count coins. Find the total value of sets of coins
	Review: Borrowing	Review and practice subtraction with borrowing
	Addition: Checking Answers	Check addition problems
	Subtraction: Checking Answers	Check subtraction problems
	Review: Number Order and Place Value	Review number order. Review place value. Review expanded notation
	Review: Addition and Subtraction Facts	Review and practice addition and subtraction facts

Unit	Lesson Title	Lesson Objectives
3 - WHOLE NUMBERS AND FRACTIONS		
	Fact Families, Mental Math, and Addition	Create addition and subtraction fact families. Practice addition
	Column Addition	Add a column of three numbers, with and without carrying
	Addition: With and Without Carrying	Practice addition with and without carrying
	Measurements: Weight and Volume	Identify standard units of measure for weight. Identify standard units of measure for height
	Fact Family, Place Value, and Number Order	Review fact families. Review number order. Review place value
	Checking Addition Problems	Review and practice checking addition
	More Checking Addition Problems	Practice checking addition problems with and without carrying
	Subtraction with Borrowing	Subtract with regrouping from the tens and hundreds place
	Number Sentences and Symbols	Use math symbols to solve number sentences
	Subtraction with Borrowing and Checking	Practice checking subtraction problems with and without borrowing
	Fractions	Identify and write fractions
	Fractions - Continued	Identify and write fractions
	Addition Practice	Practice addition with carrying
	Time: AM and PM	Identify a.m. and p.m. when telling time
	Review: Addition, Subtraction, and Money	Review checking addition and subtraction. Review counting and writing money. Review fact families
	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		
	Numbers to Thousands Place	Identify place value to the thousands place
	Addition and Skip Counting	Practice addition with sums to the thousands place. Review skip counting
	Rounding and Estimation	Practice rounding to the tens place. Use rounding to estimate
	Subtraction with Borrowing	Practice subtraction with borrowing
	Measurement	Identify standard units of measurement for weight, volume, time, and distance
	Number Words and Place Value	Practice writing number words. Create fact families. Review place value to the thousands place
	Number Patterns	Identify number patterns. Practice number order
	Addition and Subtraction: Horizontal Form	Add and subtract problems written horizontally
	Adding and Subtracting Fractions	Add and subtract fractions with like denominators
	Roman Numerals	Identify numbers using the Roman numeral system
	Review: Subtraction with Borrowing	Practice subtraction with borrowing
	Review: Fractions	Identify fractions. Practice reading and writing fractions
	Review: Word Problems and Money	Practice solving word problems. Practice counting coins

Unit	Lesson Title	Lesson Objectives
5 - MEASUREMENT, SHAPES, AND REVIEW		
	Operation Symbols and Number Sense	Use operation symbols to write number sentences. Review place value and number sense
	Multi-Digit Addition And Subtraction	Practice addition with carrying. Practice subtraction with borrowing
	Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers in whole numbers. Identify cardinal and ordinal numbers in fractions
	Number Patterns Using Place Value	Identify place value to the thousands place. Identify number patterns
	Measuring Temperature	Identify boiling point of liquid. Identify freezing point of liquid. Find information on a graph
	Operation Symbols	Use operation signs to solve number sentences
	Shapes and Symmetry	Identify plane and solid shapes. Identify lines of symmetry
	Rounding and Estimating	Use rounding to find estimates
	Finding Perimeter	Find the perimeter of shapes
	Multi-Digit Addition and Subtraction	Add and subtract vertically and horizontally. Solve problems using mental math
	Odd And Even Numbers	Identify odd and even numbers
	Review: Checking Addition	Practice checking addition problems
	Review: Checking Subtraction	Practice checking subtraction problems
	Review: Roman Numerals and Fractions	Identify and convert Roman numerals
	Review: Multiple Concepts	Review the following concepts: Number patterns and number order, Roman numerals, Addition and subtraction facts, Measuring money and time, Rounding and estimation
	Review: Story Problems	Practice solving word problems
6 - MULTIPLICATION, ADDITION, AND SUBTRACTION		
	Multi-Digit Addition	Practice multi-digit addition with and without carrying
	Skip Counting and Multiplication	Multiply using skip counting
	Review: Telling Time	Practice telling time
	Review: Subtraction	Practice subtraction with and without borrowing
	Perimeter and Area	Find the perimeter and area of shapes
	Review: Fractions	Add and subtract fractions
	Addition and Equivalent Fractions	Practice addition. Identify equivalent fractions using pictures
	Money Computation and Roman Numerals	Add and subtract amounts of money. Review Roman numerals
	Multiplication	Use skip counting to multiply. Memorize multiplication facts for 1's, 2's, and 3's
	Lines, Angles, and Temperature	Identify lines and angles. Identify endpoints and line segments. Practice reading a thermometer
	Review: Addition and Subtraction	Review and practice addition and subtraction
	Story Problems	Practice solving story problems
	Multiple Concept Review	Review the following concepts: Fractions, Shapes, Even and odd numbers, Roman numerals, Place value
	Review: Calendar	Review units of time on a calendar. Find information on a calendar

Unit	Lesson Title	Lesson Objectives
7 - OPERATIONS, LIKELIHOOD, AND PROBABILITY		
	Review: Place Value	Review place value of multi-digit numbers
	Review: Subtraction with Borrowing	Review and practice subtraction with borrowing
	Multiplication Facts (1)	Practice multiplication facts for 1's, 2's, 3's, 5's, and 6's
	Measurement	Find perimeter and area. Practice using standard units of measure
	Practicing Subtraction with Borrowing	Practice subtraction, including regrouping with zeros
	Mixed Numbers	Identify mixed numbers. Read and write mixed numbers. Add and subtract mixed numbers
	Review: Expanded Notation and Roman Numerals	Write numbers in their expanded form. Review Roman numerals
	Probability and Likelihood	Predict probability and likelihood
	Math Facts	Practice math facts. Solve number sentences
	Symmetry	Identify the line of symmetry in figures
	Review: Money	Solve problems using money
	Multiplication Facts (2)	Learn the multiplication facts for 7's and 8's. Review and memorize multiplication facts for 2's and 5's
	Multiple Concept Review	Review the following concepts: Story problems, Graphs, Fact families, Fractions and multiplication, Lines and angles, Measurement, Place value
8 - MEASUREMENT, FRACTIONS, AND DECIMALS		
	Shapes, Measurement, and Addition	Identify flat and solid shapes. Convert and add measurements. Practice checking addition and subtraction
	Time and Measurement	Solve problems using a calendar. Review number order. Practice mental math
	Fractions, Odd and Even Number Patterns	Review fraction words. Identify even and odd number patterns
	Decimals	Read and write decimals
	Money Problems	Solve story problems using money. Review and practice estimation and rounding
	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
	Directions	Identify north, south, east, and west on a grid. Locate points using directions on a grid
	Multiplication Facts	Practice memorizing multiplication facts for 3's and 4's. Practice memorizing multiplication facts for 8's and 9's
	Multiple Concept Practice	Review multiplication facts. Review fractions. Review Roman numerals. Review number relation symbols
	Review: Addition With Checking	Practice addition with checking
	Word Problems	Solve word problems
	Using Graphs	Find data using bar and line graphs. Find data using circle and picture graphs. Practice finding perimeter and area

Unit	Lesson Title	Lesson Objectives
9 - REVIEW: MULTIPLE CONCEPTS		
	How Numbers Work	Identify number patterns. Use number symbols to solve number sentences. Write numbers in expanded form
	Math Facts	Practice basic math facts
	Add/Subtract with Checking	Check your own subtraction work. Check your own addition work
	Multiplication	Memorize multiplication facts for 1's, 2's, 3's, 4's, and 5's
	Equivalent Fractions	Identify equivalent fractions
	Reading and Writing Fractions	Read and write fractions
	Fraction Computation	Add and subtract fractions and mixed numbers
	Measure: Length, Perimeter, and Area	Identify customary units of length. Find the perimeter of a shape. Find the area of a shape
	Measure: Money, Time, and Temperature	Identify and count coins. Tell time using a face and digital clock. Read temperatures on a thermometer
	Measure: Weight and Volume	Identify standard units of weight. Identify standard units of volume
	Symmetry and Shapes	Place a line of symmetry on pictures. Identify lines, and plane and solid shapes
	Roman Numerals	Identify Roman numerals. Convert Arabic and Roman numerals
	Likelihood and Graphing	Determine if events are likely, or probable. Graph information on bar, line, picture, and circle graphs
	Problem Solving	Solve problems written in words
10 - BASIC MATH REVIEW		
	Review: Rounding and Estimation	Review rounding to the tens, hundreds, and thousands place. Use rounding to estimate answers
	Review: Adding Fractions	Practice adding fractions
	Review: Subtracting Fractions	Practice subtracting fractions
	Review: Multiplication Facts	Practice multiplication facts from memory
	Review: Mental Math, Graphs, Likelihood	Solving number sentences using mental math. Identify information on a circle graph. Determine likelihood and probability
	Review: Addition and Subtraction Computation	Identify the parts of addition and subtraction problems. Practice adding and subtracting
	Review: Fractions and Decimals	Identify equivalent fractions from pictures. Identify fractions and decimals
	Review: Add and Subtract Mixed Numbers and Fractions	Add and subtract fractions. Add and subtract mixed numbers
	Review: Finding Missing Numbers	Solve problems with missing numbers. Solve problems with missing number symbols
	Review: Shapes and Symmetry	Identify plane and solid shapes. Identify a line of symmetry
	Review: Roman Numerals	Convert Arabic and Roman numerals
	Review: Measurement	Identify standard units of measure including: Time, Length, Width, Volume
	Review: Number Symbols and Grouping	Solve equations using operation and number relation words. Solve equations using parentheses to group numbers
	Review: Perimeter and Area	Find the area of figures. Find the perimeter of figures
	Review: Problem Solving	Solve problems on the following concepts: Addition, Subtraction, Multiplication, Measurement, Number patterns, Directions, Calendar Skills

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Unit	Lesson Title	Lesson Objectives
1 - NUMBER SENSE AND PLACE VALUE		
	Place Value to 1,000s	Review digits. Review place value
	Single-Digit Addition	Review single-digit addition. Practice addition facts
	Single-Digit Subtraction	Review subtraction. Practice subtraction facts
	Multi-Digit Addition	Review multi-digit addition with regrouping
	Multi-Digit Subtraction	Review multi-digit subtraction with regrouping
	Review Place Value to 1,000s	Review place value to the thousands place. Write numbers in expanded notation
	Multiplication Facts	Review the multiplication process. Practice multiplication facts
	Family of Facts	Create addition and subtraction fact families
	Telling Time	Review telling time on a face clock
	Number Words	Practice writing numbers. Practice using place value
	Patterns	Recognize number patterns
	Cardinal and Ordinal Numbers	Identify cardinal and ordinal numbers. Use mental math to add and subtract
	Reading and Writing Fractions	Define numerator and denominator. Practice reading and writing fractions
	Practice Multiplication	Practice multiplication facts for 8's and 9's
	Counting Money	Practice counting U.S. money. Practice writing amounts of U.S. money
	Operations	Review operation signs. Practice solving equations
	Review: Numbers	Review cardinal and ordinal numbers. Review expanded notation
	Story Problems	Learn three problem solving strategies. Practice solving story problems
2 - ROUNDING AND ESTIMATION		
	Operations	Practice using operation symbols. Practice addition, subtraction, and multiplication operations
	Multiplication Facts: 6-10 and Review	Practice multiplication facts. Multiply multi-digit numbers by a one digit multiplier
	Using Standard Measures	Identify standard measures of time, money, volume, and distance
	Place Value to 10,000s	Identify place value to the 10,000's place
	Relation Symbols	Use relation symbols to compare the values of numbers
	Missing Number Equations	Solve missing numbers equations
	Review: Even and Odd Numbers	Review even and odd numbers and number patterns
	Adding and Subtracting Fractions	Identify the parts of a fraction. Add and subtract fractions with like denominators
	Rounding Numbers to 10s	Round numbers to the nearest 10
	Estimating Answers to 10s	Use rounding to estimate to the nearest 10
	Review: Math Symbols	Review mathematical symbols. Review units of measurement. Review writing number words
	Equivalent Fractions	Find equivalent fractions
	Rounding Numbers to 100s	Round numbers to the nearest hundred
	Estimating Answers to 100s	Use rounding to estimate to the nearest hundred
	Review: Computation	Solve addition, subtraction, and multiplication problems
	Review: Bar Graphs and Fractions	Construct a bar graph. Solve fraction problems using pictures
	Review: Fractions	Practice adding and subtracting fractions with like denominators

Unit	Lesson Title	Lesson Objectives
3 - WHOLE NUMBERS AND FRACTIONS		
	Place Value	Read and write numbers to the ten thousands place
	Rounding Numbers to 10s, 100s, and 1,000s	Round numbers to the nearest ten, hundred, and thousands' place
	Multiply with Carrying to 10s	Solve multiplication problems that require carrying
	Multiplication Practice	Practice solving multiplication problems with and without carrying
	Multi-Digit Addition and Subtraction	Practice regrouping in addition and subtraction
	Rounding and Estimating	Solve addition and subtraction problems using rounding and estimation
	Fractions Equal to Whole Numbers	Identify fractions with a value of one or more than one
	Estimate Answers to 1,000s	Estimate sums and differences to the thousand's place
	Relation Symbols	Compare the value of numbers using relation symbols
	Fractions	Add and subtract fractions with like denominators
	Add and Subtract to 10,000s	Add and subtract using regrouping to the ten thousand's place
	Check Your Answers	Practice checking your own work when adding and subtracting
	Equivalent Fractions	Make equivalent fractions. Use cross-multiplication to check for equivalent fractions
	Learn Numbers to 100,000s	Read and write numbers to the hundred thousand's place
	Equations	Solve equations that contain a variable
	Reading and Solving Story Problems	Solve story problems using clues found in the problem
	Line Graphs	Interpret and create a line graph
4 - LINES AND SHAPES		
	Plane and Solid Shapes	Identify plane and solid shapes
	Practice Addition and Subtraction	Regroup numbers that have a zero in the minuend. Practice addition and subtraction with regrouping
	Place Value and Rounding	Review rounding and place value to the ten thousands' place
	Multiply with Carrying to 100s	Learn the properties of multiplication. Practice multiplying with regrouping
	Lines, Segments, End Points, Rays, Angles	Identify lines and line segments. Identify end points, rays, and angles
	Lines, Directions, and Maps	Identify directions using a compass rose. Measure distances on a map
	Review: Plane and Solid Shapes	Review and identify plane and solid shapes
	Fractions	Identify equivalent, proper, and improper fractions
	Missing Number Problems	Solve missing number equations
	Review: Operation and Relation Symbols	Solve equations using the proper operation and relation symbols
	Review: Expanded Notation and Estimation	Write numbers in expanded notation. Estimate sums and differences using rounding
	Review: Fractions and Place Value	Review fractions and place value

Unit	Lesson Title	Lesson Objectives
5 - DIVISION AND MEASUREMENT		
	Introduction to Division	Divide sets into equal groups. Make fact families using division facts
	Multiplication	Multiply by one-digit multipliers
	Addition and Subtraction	Practice addition and subtraction
	Review: Time and Number Sense	Review place value and writing numbers. Review telling time. Review relation signs
	Linear Measurement	Identify standard linear units of measurement
	Capacity (Dry and Liquid Measurement)	Identify standard units of measurement for dry and liquid capacity
	Division Facts	Practice memorizing division facts
	Review: Multiplication	Multiply to the ten thousands' place
	Reading a Calendar	Find information on a calendar
	Perimeter and Area	Learn and use the formula for finding perimeter and area
	Finding Perimeter and Area	Practice finding perimeter and area
	Missing Number Problems	Practice solving equations with missing numbers
	Division Practice	Practice solving division problems
	Roman Numerals	Convert Arabic numbers to Roman numerals
	Review: Regrouping	Practice regrouping in addition, subtraction, and multiplication
	Patterns	Identify number patterns
6 - MULTIPLICATION AND FRACTIONS		
	Prime and Composite Numbers	Identify prime and composite numbers
	Multiples	Identify multiples and factors
	Division with Remainders	Solve division problems with remainders
	Equations and Grouping	Review missing number problems. Use grouping to solve missing number problems
	Proper and Improper Fractions	Identify proper and improper fractions using a number line
	Multiplication Facts For 11 and 12	Practice multiplication facts for 11's and 12's
	Fractions and Mixed Numbers	Read and write mixed numbers. Add and subtract mixed numbers
	Review: Division and Roman Numerals	Practice using Roman numerals. Practice solving division with remainder problems
	Measurements	Identify standard units of measure for length. Identify standard units of measure for weight. Identify standard units of measure for capacity
	Equivalent Fractions	Identify equivalent fractions. Review lines and line segments
	Review: Rounding and Shapes	Round numbers to the nearest ten, hundred, and thousand. Review plane shapes
	Factors and Multiples	Identify factors and multiples
	Problem Solving with Equations	Solve story problems using missing number equations

Unit	Lesson Title	Lesson Objectives
7 - FRACTIONS AND PATTERNS		
	Multiplication and Division	Multiply with two-digit multipliers. Review division with remainders
	Factors, Multiples, and Variables	Review prime and composite numbers. Review factors and multiples. Review relation signs. Review variables
	Fractions	Identify proper and improper fractions using graphics
	Multiplication and Fractions	Solve two-digit multiplication problems. Simplify fractions
	Average and Number Rules	Determine the average of a set of numbers
	Review: Measurement and Place Value	Review standard units of measure for length, weight, and volume
	Fractions	Add, subtract, and simplify fractions
	Missing Number Problems	Solve equations containing parentheses
	Rounding Numbers and Place Value	Round numbers to the nearest ten, hundred, and thousand
	Review: Shapes, Perimeter, and Area	Review plane and solid shapes. Review lines and angles. Find the perimeter and area of shapes
	Fractions and Patterns	Find number patterns. Convert mixed numbers to improper fractions
	Practice: Operations and Money	Add and subtract amounts of money. Use decimal points and dollar signs properly
	Review: Cardinal and Ordinal Numbers	Practice using cardinal and ordinal numbers
8 - DIVISION AND FRACTIONS		
	Factoring and Place Value	Identify factors and multiples. Identify prime and composite numbers
	Review: Two-Digit Multiplication	Multiply two and three-digit numbers by a two-digit multiplier
	Fractions	Identify mixed numbers, proper and improper fractions. Add, subtract, and simplify fractions
	Division	Review and practice division with remainders
	Fractions	Find equivalent fractions. Identify smallest common multiples. Add and subtract fractions with unlike denominators
	Missing Number Problems	Use missing number equations to solve problems
	Multiplication	Multiply by one-digit and two-digit multipliers
	Division	Solve multi-digit division problems with and without remainders
	The Metric System	Identify metric units of measurement
	Fractions	Identify common denominators of fractions. Find equivalent fractions. Add and subtract fractions with unlike denominators
	Review: Time	Tell time on a face clock and a digital clock
	Review: Operations and Rounding	Review and practice computation. Review and practice rounding
	Review: Roman Numerals, Measurement, and Symbols	Practice using Roman numerals. Identify standard units of measure. Solve equations through the use of relation symbols

Unit	Lesson Title	Lesson Objectives
9 - DECIMALS AND FRACTIONS		
	Decimals	Read and write decimal numbers. Calculate with decimal numbers
	Money	Practice adding and subtracting amounts of money
	Multiplication of Whole Numbers	Practice multiplying by two-digit multipliers
	Ordered Pairs	Use ordered pairs to find locations on a grid
	Division and Averages	Review and practice division by one-digit divisors. Review and practice finding averages
	Add and Subtract Decimals	Add and subtract decimals
	Fractions with Different Denominators	Find equivalent fractions. Add and subtract fractions with unlike denominators
	Equivalent Fractions and Decimals	Cross-multiply to find equivalent fractions. Review place value of decimals
	Multiply and Divide	Practice multiplication and division
	Mixed Numbers	Add and subtract mixed numbers
	Sensible Answers	Use rounding and estimation to decide if an answer is sensible
	Review: Fractions	Review addition and subtraction of fractions. Review finding equivalent fractions. Review proper and improper fractions. Review mixed numbers
	Review	Review metric units of measurement. Review perimeter and area. Review Roman numerals. Practice solving equations
10 - GRAPHING AND REVIEW		
	Data Collection and Random Sampling	Define random sampling. Define prediction
	Project: Collecting Data	Take a random sample. Collect and report data
	Project: Predicting Data	Report data from a random sample. Make predictions from data of a random sample
	Graphs	Graph data on line and bar graphs. Graph data on circle and picture graphs
	Whole Numbers	Practice the four basic operations: addition, subtraction, multiplication, and division. Check multiplication and division problems
	Decimal Numbers	Review reading and writing decimal numbers. Review computation with decimals
	Problem Solving with Fractions	Solve story problems using fractions
	Fractions	Add and subtract fractions. Identify proper and improper fractions. Simplify fractions. Find common denominators
	Sizes, Shapes, and Measurements	Identify plane and solid shapes
	Word Problems and Equations	Practice solving word problems. Practice solving equations

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Unit	Lesson Title	Lesson Objectives
1- NUMBER SENSE AND FRACTIONS		
	Operations	Review the four basic operations of addition, subtraction, multiplication, and division
	Place Value and Large Numbers	Review place value. Read and write numbers to the millions place
	Fractions	Identify fractions using graphics
	Fractions - Words	Review how to read and write fractions
	Operations with Fractions	Add and subtract fractions with like denominators
	Equivalent Fractions	Identify equivalent fractions
	Test for Equivalent Fractions	Use cross-multiplication to identify equivalent fractions
	Working with Numbers	Review odd and even numbers. Identify prime and composite numbers
	Mathematical Operations	Solve equations using grouping
	Comparing Numbers	Compare numbers using the greater than and less than symbols
	Comparing Numbers Continued	Practice comparing the values of large numbers
	Expanded Numbers	Write numbers in their expanded forms
	Rounding Numbers	Round numbers to the nearest tens place. Round numbers to the nearest hundreds place
	Rounding to 1,000s	Round numbers to the nearest thousand and ten thousand
	Estimation	Estimate sums and differences using rounding
	Estimation of Multiplication Problems	Estimate multiplication products using rounding
2 - FRACTIONS AND MULTIPLICATION		
	Multiply with Two-Digit Multipliers	Multiply numbers by two-digit multipliers
	Division Problems	Solve division problems with and without remainders
	Factors and Multiples	Identify factors and multiples
	Fractions	Identify proper and improper fractions and mixed numbers. Convert improper fractions to whole or mixed numbers
	Simplifying a Fraction	Simplify fractions to lowest terms
	Add and Subtract Fractions	Add and subtract fractions and mixed numbers with like denominators
	Subtract Mixed Numbers	Subtract mixed numbers with like denominators
	Shapes	Identify plane shapes and polygons
	Solids	Identify solid shapes
	Angles and Real-Life Shapes	Identify line segments and angles
	Drill: Add, Subtract, and Multiply	Practice memory and speed of basic math facts
	Multiplication Facts: The 13s	Practice multiplication facts for the 13s times table
	Multiplication Facts: The 14s	Practice multiplication facts for the 14s times table
	Multiplication Facts: The 15s	Practice multiplication facts for the 15s times table
	Drill: Divide	Practice solving division problems
	Families of Facts	Make addition and subtraction fact families
	Family of Facts: Multiplication and Division	Make multiplication and division fact families
	Mathematics Symbols	Review operation, relation, and grouping symbols
	Practice Reading Symbols	Solve equations using operation and relation symbols

Unit	Lesson Title	Lesson Objectives
3 - DIVISION, AVERAGING, POLYGONS		
	Introduction to Short Division	Solve division problems using the short division method
	Short Division Practice	Practice the short division method
	Division Symbols	Use three different division symbols when solving division problems
	Adding/Subtracting with Unlike Denominators	Find common denominators. Add and subtract fractions with unlike denominators
	More Adding/Subtracting of Fractions	Practice adding and subtracting fractions with unlike denominators
	Estimation	Estimate solutions to story problems
	Averaging Numbers	Find the average of a set of numbers
	Writing A Number Sentence	Write number sentences to solve story problems
	Properties of Addition	Identify the zero property of addition. Identify the order property of addition. Identify the grouping property of addition
	Practice Adding/Subtracting/Multiplying	Practice addition, subtraction, and multiplication computation
	Perimeter of Polygons	Find the perimeter of polygons
	Area of Squares and Rectangles	Find the area of squares and rectangles
	Area of Polygons	Find the area of polygons
4 - GEOMETRY, DECIMALS, MULTIPLICATION		
	Lines	Identify five different types of lines
	Protractor Measurement	Define protractor. Identify three types of angles
	Figures	Identify symmetry in figures. Categorize similar, congruent, and incongruent shapes
	Triangles	Identify equilateral, scalene, and isosceles triangles
	Circles	Find the perimeter and area of shapes. Find the diameter and radius of a circle
	Roman Numerals	Convert Arabic numbers to Roman numerals
	Decimals	Identify the place value of decimal numbers
	Writing Decimals Two Ways	Write decimals as fractions and mixed numbers
	Multiplication Properties	Identify the properties of multiplication
	Solving Multiplication Problems	Practice solving multiplication problems
	Solving Multiplication Problems Continued	Practice multiplication computation
	More Solving Multiplication Problems	Solve story problems using multiplication
	Solving Division Problems	Find divisors using divisibility rules
	Multiplication and Short Division	Solve multiplication and division problems using a calculator

Unit	Lesson Title	Lesson Objectives
5 - MULTIPLICATION, MEASUREMENT, AND FRACTIONS		
	Multiply and Divide by 10,100,1000	Multiply and divide by 10 and 100
	Operations by 10,100,1000 (Continued)	Multiply and divide by 10, 100, and 1,000
	Multiplying Two-Digit Numbers	Multiply by two-digit multipliers
	Multiplying Three-Digit Numbers	Multiply by three-digit multipliers
	Measurement	Measure length, width, and capacity using customary units of measure
	Simplifying Measurement Problems	Add and subtract using units of measure. Simplify or reduce answers
	Measurement of Time	Measure time using standard units of measure
	Review	Review number sense. Review measurement. Review fractons
	Review (Continued)	Review basic operations. Review geometry. Review measurement. Review fractions
	Formulas	Use a formula to calculate distance
	Subtracting Mixed Numbers	Subtract fractions from whole numbers
	Subtracting Mixed Number Problems	Practice subtracting mixed numbers
	Solving Division Problems	Solve division problems using long and short division
	Long and Short Division	Practice division using both the long and short methods
6 - PLACE VALUE, FRACTIONS, DECIMALS		
	Multiplication of Fractions	Multiply fractions
	Simplifying Multiplication by Fractions	Simplify problems before multiplying
	Place Value	Identify the place value of decimals
	Place Value Words	Read and write decimal numbers
	Decimal Numbers	Practice reading decimals
	Writing Decimal Numbers	Practice writing decimal numbers
	Review	Identify odd, even, prime, and composite numbers. Practice fractions. Identify types of lines. Solve missing number problems. Practice basic computation skills
	Multiplication by Whole Numbers	Multiply by whole numbers. Memory practice of multiplication facts
	Division by Whole Numbers	Practice division using mental math
	Adding Decimals	Practice adding decimals
	Adding Decimals	Practice adding decimals. Identify how zero affects the value of decimals
	Adding Decimals Continued	Add columns of decimal numbers
	Subtracting Decimals	Subtract decimal numbers
	Subtracting Decimals Continued	Practice addition and subtraction of decimals
	Multiplication of Decimals	Multiply decimal numbers

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

Unit	Lesson Title	Lesson Objectives
9 - FRACTIONS, RATIOS, AND DECIMALS		
	Finding Reciprocals	Find reciprocals of fractions
	Reciprocals and Dividing Fractions	Practice finding reciprocals. Divide fractions
	Dividing Fractions with Whole Numbers	Divide fractions by whole numbers
	Dividing Fractions with Mixed Numbers	Divide fractions by mixed numbers. Divide mixed numbers by fractions
	Division of Decimals	Divide decimal numbers by whole numbers
	Place Value and Remainders	Use decimals instead of remainders in division
	Coordinate Graphs	Find information on a coordinate graph using ordered pairs
	Ratios	Describe and compare groups of objects using ratios
	Converting Fractions and Decimals	Convert fractions to decimals. Convert decimals to fractions
	Fractions to Decimals to Percent	Convert fractions to decimals. Convert decimals to percents
	Comparing Fractions	Compare the values of fractions
	Add/Sub Mixed Numbers and Decimals	Addition and subtraction of mixed numbers. Addition and subtraction of decimals
	Mult/Div Fractions and Decimals	Multiplication and division of mixed numbers. Multiplication and division of fractions
	Word Problems	Practice problem solving
10 - ESTIMATION, RANDOM SAMPLES, GRAPHS, REVIEW		
	Estimation and Prediction	Identify data. Identify random samples. Identify biased samples
	Random Samples	Answer questions based on data from random samples
	Graphs	Graph data provided from a random sample
	Problems Using Graphs	Solve problems using graphs
	Review: Factors, Rounding, and Averages	Review and practice finding factors. Review and practice rounding . Review and practice finding averages
	Review: Lines, Angles, Shapes, and Ratios	Identify different types of lines. Identify three types of angles. Identify shapes. Describe information in ratio form
	Review: Place Value	Review place value to the hundred millions
	Review: Writing Large Numbers	Review writing numbers to the hundred millions
	Review: Missing Number Equations	Solve missing number equations
	Review: Multiplication of Whole Numbers	Multiply by one, two, and three-digit multipliers
	Review: Division of Whole Numbers	Review division of whole numbers

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Unit	Lesson Title	Lesson Objectives
1 - NUMBERS AND PLACE VALUE		
	Reading and Comparing Numbers	Match the Arabic numerals to number words. Compare number values
	Place Value Through the Billion's Place	Learn to read numbers through the billion's place
	Roman Numerals	Convert Roman numerals to Arabic numerals. Convert Arabic numerals to Roman numerals
	Ways of Looking at Numbers	Identify different ways to categorize numbers
	Expanded Notation	Explore place value using expanded notation
	Exponential Notation	Write numbers in exponential form. Convert numbers from exponential form to standard form
	Exponents and Expanded Notation	Write numbers using exponents. Write numbers in expanded notation
	Prime Factorization	Identify prime factors of a number using factor trees. Identify prime factors of a number using factor boxes
	More Prime Factorization	Identify prime factors of a number using factor trees. Identify prime factors of a number using factor boxes
	Number Relationships	Identify cardinal numbers. Identify ordinal numbers. Identify prime and composite numbers

Unit	Lesson Title	Lesson Objectives
2 - OPERATIONS WITH WHOLE NUMBERS		
	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
	Properties of Addition	Identify number sentences that demonstrate the following properties: the Associative Property of Addition, the Commutative Property of Addition, the Identity Property of Addition
	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 Identity Property of Addition. Identify number sentences that demonstrate one of the following properties: the Associative Property of Addition, the Commutative Property of Addition, the Identity Property of Addition
	Operations and Their Opposites	Use inverse operations to solve problems. Use inverse order of operations to solve problems
	Subtraction of Whole Numbers	Review the concept of borrowing in subtraction of whole numbers
	Introduction to Equations	Use addition to solve simple equations. Use subtraction to solve simple equations
	Estimating	Calculate sums and differences. Estimate sums and differences
	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 Identity Property of Addition. Identify number sentences that demonstrate one of the following properties: the Associative Property of Addition, the Commutative Property of Addition, the Identity Property of Addition
	Multiplication of Whole Numbers	Review one-digit multiplication. Review two-digit multiplication
	Factors, Multiples, and Whole Number Multiplication	Identify factors and multiples of whole numbers. Complete two and three-digit multiplication problems
	Division of Whole Numbers	Calculate the quotient of one- and two-digit divisors
	Division of Whole Numbers	Review division with remainders
	More Division of Whole Numbers	Practice division with remainders
	Equations Using Multiplication and Division	Use multiplication to solve simple equations. Use division to solve simple equations

Unit	Lesson Title	Lesson Objectives
3 - ADVANCED PRACTICE WITH WHOLE NUMBERS		
	Sums and Differences	Calculate sums and differences. Estimate sums and differences
	More Sums and Differences	Calculate sums and differences. Estimate sums and differences
	Still More Sums and Differences	Calculate sums and differences. Estimate sums and differences
	Estimating Products	Calculate products. Estimate products
	Estimating Quotients	Calculate quotients. Estimate quotients
	More Estimating Quotients	Calculate quotients. Estimate quotients
	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
	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
	Divisibility Rules	Utilize the divisibility rules for 2, 3, 5, 6, 9, and 10
	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
	Patterns and Number Sequences	Identify various number patterns
	Rounding and Missing Number Patterns	Round numbers to the given place value. Solve for an unknown variable. Solve word problems
	Problem Solving	Use problem-solving strategies to solve problems that review skills learned previously in this unit

Unit	Lesson Title	Lesson Objectives
4 - DECIMAL NUMBERS		
	Positioning the Decimal Point	Identify the place value of specified digits in a given number
	Comparing Decimal Numbers	Compare decimal numbers using greater than and less than
	Rounding Whole Numbers and Decimal Numbers	Round decimal numbers to the hundredths place. Round decimal numbers to the thousandths place
	More Rounding Whole Numbers and Decimal Numbers	Round to the given place value
	Rounding Decimal Numbers	Divide decimal numbers by a power of ten
	Decimal Numbers	Write decimal fractions in words. Write decimal fractions using digits
	Equivalent Decimals	Create equivalent decimal numbers
	Adding and Subtracting Decimals	Add a column of three decimal numbers. Subtract decimal numbers
	Adding Decimal Numbers	Rewrite horizontally aligned addition problems into vertically aligned addition problems and solve
	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
	Review: Adding, Subtracting, and Multiplying Decimal Numbers	Adding decimal numbers. Subtracting decimal numbers. Multiplying decimal numbers
	Review: Rules of Multiplication and Division	Multiply whole numbers and decimal numbers. Divide whole numbers and decimal numbers
	More Review: Multiplication and Division	Multiply whole numbers and decimal numbers. Divide whole numbers and decimal numbers
	Multiplication of Decimals	Multiply decimal numbers times a multiple of 10
	Multiplication of Whole and Decimal Numbers	Multiply whole numbers and decimal numbers
	Multiplying Decimals	Multiply two given decimal numbers
	Division Using 10, 100, 1,000	Divide decimal numbers by powers of ten
	Review: Division	Divide whole numbers and decimal numbers
	Division of Decimal Numbers	Divide decimal numbers by decimal numbers

Unit	Lesson Title	Lesson Objectives
5 - BEGINNING FRACTIONS		
	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
	Writing Fractions as Decimals	Convert decimal numbers into fractions. Convert fractions into decimal numbers
	Relating Fractions to Decimals	Convert fractions to decimals
	Fractions to Decimals	Convert fractions to decimal numbers. Convert decimal numbers to fractions. Divide decimal numbers by whole numbers and other decimals
	Equivalent Fractions	Recognize equivalent fractions
	Proper, Improper, and Mixed Fractions	Construct proper fractions, improper fractions and mixed numbers
	Convert Improper Fractions to Mixed Numbers	Convert improper fractions into mixed numbers
	Fractions	Reduce fractions to their lowest terms. Create equivalent fractions
	Reducing Improper Fractions	Reduce improper fractions to their lowest terms
	Converting Mixed Numbers to Improper Fractions	Convert mixed numbers into improper fractions
	Comparing Fractions	Compare fractions using greater than, less than, and equal to
	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
	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
	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
	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
	Addition and Subtraction of Fractions with Common Denominators	Add fractions with common denominators. Subtract fractions with common denominators
	Addition and Subtraction of Mixed Numbers with Common Denominators	Add mixed numbers with common denominators. Subtract mixed numbers with common denominators
	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
	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
	Adding and Subtracting Fractions	Add and fractions and mixed numbers with unlike denominators. Subtract fractions and mixed numbers with unlike denominators
	Adding Fractions	Add fractions and mixed numbers by finding the least common denominator (LCD) of two fractions

Unit	Lesson Title	Lesson Objectives
6 - MULTIPLYING AND DIVIDING FRACTIONS		
	Multiplication of Fractions	Multiply fractions
	Multiplication of Fractions with Reducing	Multiply fractions. Reduce products to simplest terms
	Multiplication of Fractions Times Whole Numbers	Multiply fractions times whole numbers. Reduce products to simplest terms
	Multiplying Mixed Numbers	Multiply fractions and mixed numbers
	Multiplying Whole Numbers Times Fractions	Multiply whole numbers times fractions
	Multiplying and Reducing Fractions	Multiply fractions. Reduce using cross-cancellation
	Reciprocals	Write the reciprocals of the given fractions
	Division of Fractions by a Fraction	Divide and simplify fractions. Simplify quotients
	Division of Fractions with Whole Numbers	Divide fractions by whole numbers. Divide whole numbers by fractions. Simplify quotients
	Division of Fractions with Mixed Numbers	Divide fractions by whole numbers. Divide whole numbers by fractions. Simplify quotients
	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
	Dividing Fractions	Divide fractions
	More Dividing Fractions	Divide fractions. Divide mixed numbers
	Multiplying and Dividing with Fractions	Solve equations using multiplication of fractions. Solve equations using division of fractions
	Multiplying and Dividing with Decimals	Solve equations using multiplication of decimal numbers. Solve equations using division of decimal numbers

Unit	Lesson Title	Lesson Objectives
7 - DECIMALS AND FRACTIONS		
	Converting Fractions to Decimals and Percents	Convert decimals into percents. Convert fractions into percents
	Finding Percentages	Convert decimals into percents. Convert fractions into percents
	Equations Using Percent	Solve equations involving percent
	More Equations Using Percent	Solve equations involving percent
	Changing Fractions to Decimals to Percent	Convert fractions to decimal numbers. Convert decimal numbers into percentages
	Converting Fractions to Decimals	Convert fractions to decimals using division
	Prime and Composite Numbers	Identify prime numbers. Identify composite numbers
	Prime Numbers and Prime Factors	Identify prime and composite numbers. Identify prime factors of a given number
	Prime and Composite Practice	Identify prime and composite numbers. Identify prime factors of a given number
	Greatest Common Factors	Identify the greatest common factor (GCF) of given numbers
	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
	Practice Adding Fractions	Add fractions and mixed numbers by finding the least common denominator (LCD) of two fractions
	Practice Subtracting Fractions	Subtract fractions and mixed numbers with borrowing

Unit	Lesson Title	Lesson Objectives
8 - GEOMETRY AND MEASUREMENT		
	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
	Three Dimensional Shapes	Identify the following three-dimensional shapes: cube, sphere, cylinder, cone
	Shapes	Identify lines of symmetry. Identify congruent shapes. Identify similar shapes
	Circles	Calculate the radius area of circles. Calculate the diameter of circles. Calculate the circumference of circles. Calculate the area of circles
	Lines, Angles, and Congruency	Identify the following types of lines: parallel lines, intersecting lines, perpendicular lines, vertical lines
	Lines, Rays, and Angles	Identify lines using standard naming conventions. Identify rays using standard naming conventions. Identify angles using standard naming conventions
	Angles	Identify lines, rays, and angles. Draw lines, rays, and angles
	Project: Angles	Draw an angle of any size.
	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: scalene, isosceles, equilateral
	Perimeter, Volume, and Area	Calculate the perimeter of various cubes. Calculate the volume various cubes. Calculate surface area of various cubes
	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
	Equation Basics, Area and Perimeter	Solve simple equations. Calculate area and perimeter of a rectangular room using a formula
	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
	Review Formulas: Area, Perimeter, Circumference, and Volume	Identify and practice using the following formulas: distance, perimeter, area, amount
	More Review of Formulas	Identify and practice using the following formulas: distance, perimeter, area
	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
	Converting Metric Units to English Units	Convert metric units to customary units. Convert customary units to metric units
	Customary Units of Measure	Know the abbreviations for the customary units of measure. Convert customary units of measure. Add customary units of measure
	Add and Subtract Units of Measure, Time Zones	Subtract customary units of measure. Convert time through time zones
	Multiplication and Formulas	Solve two- and three-digit multiplication problems. Solve problems using the following formulas: area, perimeter, distance, amount

Unit	Lesson Title	Lesson Objectives
9 - STATISTICS AND GRAPHING		
	Prediction and Probability	Calculate the likelihood of a given event happening
	Ratios	Practice writing ratios using colons and fractions. Determine the ratio of two given items within word problems
	Ratios and Division of Decimals	Recognize equivalent fractions as ratios
	Reading Bar Graphs and Line Graphs	Read bar graphs. Read line graphs
	Reading Picture and Circle Graphs	Read circle graphs. Read picture graphs
	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
	Statistics: Averaging	Solve word problems involving various types of averages
	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
	Problem Solving	Use problem solving skills to calculate answers
	Positive and Negative Numbers	Solve problems involving positive and negative numbers
	Coordinate Graphs	Identify points, or ordered pairs, on a coordinate graph

Unit	Lesson Title	Lesson Objectives
10 - REVIEW		
	Operating on Whole Numbers	Review the following whole number concepts: Addition, Subtraction, Multiplication, Division, Number words
	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
	Multiplying and Dividing Whole Numbers	Multiply whole numbers. Divide whole numbers
	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
	Picture, Bar, and Pie Charts	Review circle graphs. Review bar graphs. Review picture graphs
	Project: Graph	Create a bar graph that displays the distribution of a set of numbers
	Adding and Subtracting Fractions	Add fractions and mixed numbers. Subtract fractions and mixed numbers
	Multiplying Mixed Numbers	Multiply mixed numbers. Multiply fractions
	Dividing Mixed Numbers	Divide mixed numbers. Divide fractions
	Adding and Subtracting Decimals	Add decimal numbers. Subtract decimal numbers
	Multiplying Decimals	Multiply decimal numbers
	Dividing Decimals and Rounding Numbers	Divide decimal numbers. Round numbers to the given place value
	Patterns and Number Sequences	Use addition, subtraction, multiplication, and division to determine number patterns
	Rounding and Missing Number Problems	Round numbers to the given place value. Solve for an unknown variable. Solve word problems
	Problem Solving	Utilize problem-solving techniques to confirm answers to a set of given math problems. Solve addition, subtraction, and multiplication problems

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

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

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

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

Unit	Lesson Title	Lesson Objectives
5 - RATIO AND PROPORTIONS		
	Ratios	Write and simplify ratios.
	Rates	Write and simplify rates. Compare ratios using unit rates.
	Proportions	Write and solve proportions.
	Write and solve proportions.	Convert between customary units.
	Converting Metric Units	Convert between units in the metric system.
	Similarity	Recognize and work with similar figures. Use a proportion to find a missing length of a similar triangle.
	Scale Drawings	Use proportions to find missing lengths.
	Converting Between Fractions, Decimals, and Percents	Convert fractions and decimals to percents. Convert percents to fractions and decimals.
	Percent of a Number	Find the percent of a number.
	Percent of Change	Calculate a percent of change.
	Solving Percent Problems Using Proportions	Solve percent problems using a proportion.
	Solving Percent Problems Using Equations	Solve percent problems using an equation.
	Review	Review writing and simplifying ratios and rates. Review comparing ratios using unit rates. Review writing and solving proportions. Review converting between customary units. Review converting between metric units. Review recognizing similar figures and working with scale drawings. Review using a proportion to find a missing length of a similar triangle. Review converting between fractions, decimals, and percents. Review finding the percent of a number and the percent of change. Review solving percent problems using a proportion or an equation.
6 - PROBABILITY AND GRAPHING		
	Theoretical Probability	Determine the theoretical probability of an event.
	Experimental Probability	Determine the experimental probability of an event.
	Sample Space	Determine the sample space for an experiment.
	Independent and Dependent Events	Determine if events are independent or dependent. Determine the probability of independent and dependent events.
	Graphing Ordered Pairs	Plot ordered pairs on a rectangular coordinate system.
	Graphing Linear Equations	Use a table to graph a linear equation.
	Slope	Determine the slope of a linear function.
	Direct Variation	Determine if a function is a direct variation. Identify the slope of a di
	Review	Review determining the theoretical and experimental probability of an event. Review determining the sample space for an experiment. Review determining if events are independent or dependent. Review determining the probability of independent and dependent events. Review plotting ordered pairs on a rectangular coordinate system. Review using a table to graph a linear equation. Review determining the slope of a linear function, including direct variation. Review determining if a function is a direct variation. Review graphing direct variations.

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

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

Unit	Lesson Title	Lesson Objectives
9 - MEASUREMENT AND AREA		
	Perimeter	Calculate the perimeter of a polygon. Use the perimeter of a polygon to find a missing side length.
	Circumference	Calculate the circumference of a circle. Use the circumference of a circle to find the radius or diameter.
	Composite Figures	Calculate the perimeter of a composite figure.
	Area of Parallelograms	Calculate the perimeter of a composite figure.
	Area of Triangles and Trapezoids	Calculate the area of a triangle. Calculate the area of a trapezoid.
	Area of Circles	Calculate the area of a circle.
	Area of Composite Figures	Calculate the area of a composite figure.
	Dimension Changes	Determine the area of a figure after its dimensions have changed.
	Squares and Square Roots	Calculate the square of a number. Calculate the square root of a number. Determine between which two integers a square root lies.
	The Pythagorean Theorem	Use the Pythagorean theorem to find a missing length of a side of a right triangle.
	Applying the Pythagorean Theorem	Apply the Pythagorean theorem to solve word problems.
	Review	Review finding the perimeter or circumference of a plane figure. Review using the perimeter, circumference, or area of a plane figure to find a missing length. Review finding the area of parallelograms, triangles, trapezoids, circles, and composite figures. Review how changes in dimension affect the area of a plane figure. Review squares and square roots. Review using the Pythagorean Theorem to find a missing side length of a right triangle and to solve application problems.
10 - SURFACE AREA AND VOLUME		
	Classifying and Identifying Solids	Classify and identify solid figures.
	Nets	Identify and sketch the net of a solid figure.
	Surface Area and Volume	Explain what surface area and volume mean. Use an algorithm to find the surface area or volume of a solid figure.
	Surface Area of Rectangular Prisms	Use a formula to find the surface area of a rectangular prism.
	Volume of Rectangular Prisms	Use a formula to find the volume of a rectangular prism.
	Surface Area of Triangular Prisms	Use a formula to find the surface area of a triangular prism.
	Volume of Triangular Prisms	Find the volume of any triangular prism.
	Surface Area of Cylinders	Use a formula to find the surface area of a cylinder.
	Volume of Cylinders	Use a formula to find the volume of a cylinder.
	Dimension Changes	Determine how the surface area or volume of a solid figure is affected by a change in the dimensions. Find the surface area or volume of a solid figure given a change in the dimensions.
	Review	Review how to classify, identify, and draw the net of solid figures. Review the definitions of surface area and volume. Review how to find the surface area and volume of solid figures using their nets. Review the surface area formulas for rectangular prisms, triangular prisms and cylinders. Review the volume formulas for rectangular prisms, triangular prisms, and cylinders. Review the effects of dimension changes on the surface area and volume of solid figures.

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

Pre-Algebra

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

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

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

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

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

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

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

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

Unit	Lesson Title	Lesson Objectives
8 - MEASURES OF SOLID FIGURES - cont.		
	Review	Review identifying geometric solids from three-dimensional, pictorial representations. Review identifying geometric solids from net representations. Review identifying the number of faces, bases, lateral faces, edges, and vertices for geometric solids. Review Euler's formula. Review calculating the surface area of geometric solids and composite figures. Review calculating the volume of geometric solids and composite figures.
9 - DATA ANALYSIS		
	Collecting Data	Identify a sample as biased or unbiased. Make predictions from a sample. Interpret a tally chart to identify trends and make predictions about the general population.
	Measures of Central Tendency and Dispersion	Identify the mean, median, mode, and range for a set of data. Calculate the missing value of a data set when given the mean and the rest of the data set.
	Bar Graphs	Interpret a bar graph. Construct a bar graph from a set of data.
	Circle Graphs	Interpret a circle graph as parts of a whole. Compare quantities of a circle graph. Construct a circle graph from a set of data.
	Line Graphs	Identify the parts of a line graph. Interpret line graphs.
	Frequency and Histograms	Construct stem-and-leaf plots, frequency tables, and histograms from sets of data.
	Constructing Box-and-Whisker Plots	Identify the median and the quartiles of a set of data. Construct a box-and-whisker plot from a set of data.
	Interpreting Box-and-Whisker Plots	Interpret a box-and-whisker plot. Identify the lower quartile, upper quartile, and the median from a box-and-whisker plot. Identify the extreme values of a set of data from a box-and-whisker plot.
	Scatter Plots	Identify a line of best fit for a scatter plot. Classify a trend/correlation on a scatter plot. Interpret a scatter plot.
	Misleading Graphs	Identify how a graph is misleading. Identify the changes needed to correct a misleading graph.
	Appropriate Displays	Identify types of data. Choose the correct graph to display information.
	Review	Review the various types of samples. Review the measures of central tendency and dispersion. Review the two types of data. Review bar graphs, circle graphs, line graphs, stem-and-leaf plots, histograms, box-and-whisker plots, and scatter plots. Review how graphs can be misleading. Review how to determine the appropriate data display for a given set of data.

Unit	Lesson Title	Lesson Objectives
10 - PROBABILITY		
	Tree Diagrams and the Counting Principle	Identify all the possible outcomes for a given situation. Use tree diagrams to identify probabilities. Use the counting principle to identify probabilities.
	Permutations	Use permutations to count all possible outcomes.
	Combinations	Use combinations to count all possible outcomes.
	Mixed Review of Outcomes	Identify if a problem involves combinations or permutations. Use the combination formula to determine the total possible outcomes. Use the permutation formula to determine the total possible outcomes.
	Probability and Odds	Define theoretical probability, fairness, and odds.Find probability and odds for given situations.
	Experimental vs Theoretical Probability	Find the experimental probability of an event. Use the theoretical probability to predict experimental probability. Use experimental probability to make predictions about future trials.
	Disjointed and Overlapping Events	Find the probability of a disjointed event. Find the probability of an overlapping event.
	Independent and Dependent Events	Identify if events are independent or dependent. Find the probability of dependent events. Find the probability of independent events.
	Simulate a Problem	Use a simulation to determine the experimental probability of a problem. Compare and contrast the theoretical probability with the experimental probability.
	Review	Review determining the number of possible outcomes using tree diagrams and the fundamental counting principle. Review identifying and evaluating permutation and combination problems. Review finding theoretical and experimental probabilities. Review identifying and computing probabilities of independent and dependent events. Review identifying and computing probabilities of overlapping and disjointed events.
11 - COURSE REVIEW AND EXAM		
	Review I	Review properties of the real number system. Review translating, solving, and graphing functions, equations, and inequalities. Review using proportions to solve problems.
	Review II	Review using algebraic properties to solve geometry and measurement problems. Review ways to analyze and display information. Review probability.

Algebra I

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

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

Unit	Lesson Title	Lesson Objectives
3 FUNCTIONS		
	The Coordinate Plane	Identify the axes, origin, and quadrants in the coordinate plane. Identify and plot points in the coordinate plane. Identify the quadrant in which a point lies in the coordinate plane. Write an equation to express a relationship between coordinates in the plane.
	Identifying Functions	Identify the domain and range of a relation. Identify a function from a set of ordered pairs, a table, a mapping, or a graph.
	Function Notation	Evaluate a function for a value of the dependent variable using a function rule, graph, or table. Find the value of the independent variable of a function given the dependent variable.
	Modeling Functions	Identify the graph of a function that models a real life relationship. Graph a function from its equation.
	Writing a Function Rule	Write a function rule from a given set of ordered pairs or graph. Write a function rule to represent a real world problem.
	Arithmetic Sequences	Identify an arithmetic sequence. Find the common difference of an arithmetic sequence. Extend an arithmetic sequence. Find the nth term of an arithmetic sequence.
	Direct Variation	Identify a function as being a direct variation. Write the equation of a direct variation. Determine the constant of variation of a direct variation. Solve a word problem involving a direct variation.
	Slope	Use the graph of a line to determine if the slope is positive, negative, zero, or undefined (no slope). Use the graph of a line to determine the slope. Given two points on a line, calculate the slope using the slope formula.
	Linear Equations	Determine if an equation is linear. Write a linear equation in general form. Graph a linear equation by finding solutions of the equation. Write a linear equation from a word sentence. Find the x- and y-intercepts of a line.
	Slope-Intercept Form	Write a linear equation in slope-intercept form. Identify the slope and y-intercept of a line from the given equation. Graph a line using the slope and y-intercept.
	Absolute Value Functions	Identify the graph of an absolute value function in the form y = |x| + c. Identify the graph of an absolute value function in the form y = |x + c| . Describe how the graph of |x| is translated in the coordinate plane based on the equation.
	Writing Linear Equations (1)	Write the equation of a line given the slope and y-intercept. Write the equation of a line given the graph. Write the equation of a line given the y-intercept and another point on the line.

Unit	Lesson Title	Lesson Objectives
3 FUNCTIONS - cont.		
	Writing Linear Equations (2)	Write the equation of a line given the slope and a point on the line that is not the y-intercept. Write the equation of a line given two points on the line where neither is the y-intercept.
	Writing Linear Equations (3)	Find the slope of a line parallel to a given line. Find the slope of a line perpendicular to a given line. Write the equation of a line parallel to a given line. Write the equation of a line perpendicular to a given line.
	Review	Review the coordinate plane and how functions are modeled in the plane. Review what a function is, as well as how to read, write, and evaluate function notation. Review arithmetic sequences and how to find the nth term. Review graphing and writing linear equations. Review how to use translations to graph absolute value equations of the form $y = \|x\| + c$ and $y = \|x + c\|$.

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

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

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

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

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

Unit	Lesson Title	Lesson Objectives
10 RATIONAL EXPRESSIONS		
	Simplifying Rational Expressions	Determine the excluded values of a rational expression. Reduce rational expressions.
	Multiply and Divide Rational Expressions	Multiply rational expressions. Divide rational expressions.
	Add and Subtract with Like Denominators	Add fractions that have a common denominator. Subtract fractions that have a common denominator.
	Add and Subtract with Unlike Denominators	Determine the lowest common denominator of rational expressions. Add rational expressions with unlike denominators.
	Proportions	Solve proportions.
	Using the LCD	Solve equations containing rational expressions by clearing fractions.
	Complex Fractions	Simplify complex fractions.
	Inequalities	Solve inequalities containing rational expressions with variables in the numerators.
	Applications of Rational Equations	Solve time, distance, and rate problems using rational equations. Solve work and pipe flow problems. Solve mixture problems using rational equations.
	More Problems	Solve word problems by writing and solving rational equations.
	Review	Zero in the denominator is undefined. Reducing can be done by dividing out a common factor. Renaming is accomplished by multiplying by a form of one. A common denominator is needed when adding and subtracting. When dividing, we must reciprocate the divisor and multiply.

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

Geometry

Unit	Lesson Title	Lesson Objectives
1 - GEOMETRY: INTRODUCTION		
	Geometry and the World	Recognize and describe connections between geometry, the world, and God
	Nature of Mathematics	Restate important aspects of the nature of mathematics. Explore the relationship between the real world and the world of ideas
	The History of Geometric Mathematics	Recognize contributions of past mathematicians. Interpret the significance of major mathematical discoveries
	Geometry's Effect on Me	Develop an appreciation for the potential usefulness of geometry knowledge
	Mathematic System: Set Theory Review	Review and practice the rules of set theory. Identify finite and infinite sets. Identify subsets of a given set
	Mathematic System: Operations with Sets	Find the intersections and unions of sets (set operations). Solve word problems using set theory and set operations
	Geometry Undefined Terms: Points	List properties and characteristics of the undefined term "point"
	Geometry Undefined Terms: Lines	List properties and characteristics of the undefined term "line"
	Geometry Undefined Terms: Planes	List properties and characteristics of the undefined term "plane"
	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
	Geometric Postulates	Apply postulates to solve word problems. Identify characteristics of postulates
	Review of Algebraic Postulates	Review and practice the algebraic postulates
	Geometric Theorems	Recall and relate geometric theorems on points, lines, and planes
	Review of Properties of Algebra	Review properties of algebra

Unit	Lesson Title	Lesson Objectives
2 - GEOMETRY: LOGIC		
	Logic and Reasoning	Know the fundamental principles of logic and reasoning
	History of Logic and Reasoning	Recall past discoveries and influential mathematicians
	Logic	Define and identify types of logical statements. Recognize and use strategies of logic
	Conjunctions	Classify a conjunction as true or false. Use a truth table to analyze conjunctions
	Disjunctions	Classify a disjunction as true or false. Use a truth table to analyze disjunctions
	Negation	Classify a negation as true or false
	Conditional or Implication Statements	Use truth tables to judge conditional statements. Solve problems using conditional statements
	Converse, Inverse, Contrapositive	Identify the converse, inverse, and contrapositive of conditional statements. Determine if a statement is true or false
	Inductive Reasoning	Use inductive reasoning to draw reasonable conclusions. Identify statements as inductive or not inductive
	Deductive Reasoning	Identify the major and minor premises of a syllogism. Draw conclusions from premises
	Using Deductive Reasoning	Use deductive reasoning to prove basic theorems
	Proof Formats: Statement of the Theorem	Identify the essential parts of a two-column proof. Rewrite statements in "if-then" form
	Proof Formats: The Figure	Identify the appropriate figure for a proof
	Proof Formats: The Given Information	Identify the "given" information in a two-column proof
	Proof Formats: To Prove Statement	Identify the statement to prove in a two-column proof
	Proof Formats: The Plan of the Proof	Describe several strategies for planning a proof. Match statements with reasons
	Indirect Proof Format: The Paragraph Proof	Write the negation of a statement. Prove some simple statements using the indirect method, or contradiction

Unit	Lesson Title	Lesson Objectives
3 - GEOMETRY: ANGLES AND PARALLELS		
	Angle Definitions	Identify and describe acute, right, and obtuse angles. Name an angle and its parts
	Angle Measurement	Use a protractor to measure angles. Find the sum of angle measures
	Relationship Definitions	Define and identify adjacent angles. Define and identify complementary angles. Define and identify supplementary angles. Define and identify vertical angles
	Angle Relationship Theorems (1)	Use theorems about adjacent, complementary, supplementary and vertical angles to answer questions and complete proofs
	Angle Relationship Theorems (2)	Use theorems about adjacent, complementary, supplementary and vertical angles to answer questions and complete proofs
	Construction: Copying Figures	Copy a figure by using mathematical construction techniques
	Construction: Bisecting Figures	Bisect figures by using mathematical construction techniques
	Basic Properties of Parallels	Define and describe properties of parallelism of lines. Define and describe properties of parallelism of planes
	Transversals and Special Angles	Calculate angle measures using transversals. Complete proofs by applying properties and theorems of tranversals
	More Proofs: Transversals and Special Angles	Define and identify exterior and interior angles. Complete proofs using your knowledge of transversals
	Continued Proofs: Transversals and Special Angles	Define and identify exterior and interior angles. Complete proofs using your knowledge of transversals
	More Proofs for Postulates 9 and 10	Practice proofs and questions that relate to parallels and transversals
	Construction: Perpendiculars	Construct a line that is perpendicular to another line at a given point
	Construction: Tangents to Circle	Construct a line that is tangent to a circle at a given point
	Construction: Parallels	Construct a line that is parallel to a given line
	Classifying Triangles by Sides and Angles	Identify triangles as scalene, isosceles, or equilateral. Identify triangles as acute, obtuse, or equiangular
	Exterior/Remote Interior Angles of Triangle	Define exterior and remote interior angles of a triangle. Find the measures of exterior and remote interior angles
	Proofs Involving Triangles	Define corollary. Define auxiliary line. Prove theorems and corollaries using auxiliary lines
	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

Unit	Lesson Title	Lesson Objectives
4 - GEOMETRY: CONGRUENT TRIANGLES AND QUADRILATERALS		
	Defining Congruent Triangles	Define congruent triangles. Identify corresoponding parts of congruent triangles. Judge whether two triangles are congruent or not
	Proving Triangles Congruent (1)	Prove that triangles are congruent using side & angle postulates
	Proving Triangles Congruent (2)	Prove that triangles are congruent using side & angle postulates
	Proving Right Triangles Congruent	Prove that right triangles are congruent using the Hypotenuse-Leg Theorem
	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
	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
	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
	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
	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
	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
	Construction of Triangles 30-60-90	Construct 30-60-90 right triangles
	Construction of Triangles 45-45-90	Construct 45-45-90 right triangles
	Inequality Theorem in One Triangle Part1	Use angle measures to prove when one side of a triangle is longer than another side
	Inequality Theorem in One Triangle Part2	Use angle measures to prove when one side of a triangle is longer than another side
	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.
	Quadrilateral Parallelograms Theorems Part1	Use properties of parallelograms to prove statements
	Quadrilateral Parallelograms Theorems Part2	Use properties of parallelograms to prove statements
	Triangles that Use Parallelograms in Proofs	Use parallelograms to prove statements about triangles
	Parallelograms: Rectangles	Prove statements involving the rectangle
	Parallelograms: Rhombus	Prove statements involving the rhombus
	Trapezoids-Definitions and Proofs	Prove statements involving trapezoids

Unit	Lesson Title	Lesson Objectives
5 - GEOMETRY: SIMILAR POLYGONS		
	Algebra and Ratios	Express ratios in their simplest forms. Use geometric figures to find a ratio
	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
	Properties of Proportions	Solve proportions in two variables. Relate proportions to geometric figures
	Meaning of Similarity	Define similarity. Identify similar triangles. State key properties of similarity
	Meaning of Similarity-Theorems	Prove when triangles are similar. Know important facts about similar triangles
	Meaning of Similarity-Proofs	Prove when triangles are similar. Know important facts about similar triangles
	Theorems about Similar Polygons	Know facts about similar polygons. Use facts about similarity to calculate side measures of similar polygons
	Theorems about Special Segments in Triangles	Find segment measure in triangles using special relationships and proportions
	Theorems about Similar Right Triangles	Find the geometric mean of two numbers. Use the altitude of a right triangle to create proportions. Solve for unknown segment measures
	Pythagorean Theorem	Solve for missing sides of a right triangle. Determine whether 3 segments form a right triangle or not
	Theorem about 30-60-90 Right Triangles	Find the side measures of right triangles by applying special properties of 30-60-90 right triangles
	Theorem about 45-45-90 Right Triangles	Find the side measures of right triangles by applying special properties of 45-45-90 right triangles
	Using Triangles in Rectangular Solids	Apply the Pythagorean theorem when solving for parts of rectangular solids
	Using Triangles in a 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
	Trigonometry-Sine Ratio	State the sine ratio of a given angle. Use a table of sine values to solve for a missing value
	Trigonometry-Cosine Ratio	State the cosine ratio of a given angle. Use a table of cosine values to solve for a missing value
	Trigonometry-Tangent Ratio	State the tangent ratio of a given angle. Use a table of tangent values to solve for a missing value
	Using Similar Triangles in Indirect Measure	Use properties of similar triangles to measure lengths indirectly
	Using Trigonometry in Indirect Measure	Use properties of trigonometric ratios to measure lengths indirectly

Unit	Lesson Title	Lesson Objectives
6 - GEOMETRY: CIRCLES		
	Characteristics of Circles	Identify and define the parts of a circle. Calculate measures of parts of a circle
	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
	Tangents	Know and identify tangent lines. Apply properties of tangent lines to answer questions involving circles and polygons
	Arcs	Define and identify major and minor arcs. Use the definitions of major and minor arcs to find angle and arc measures
	Chords	Prove theorems that relate to tangents, arcs, and chords of a circle. Practice finding the measures of major and minor arcs
	Theorems (1)	Prove theorems that relate to tangents, arcs, and chords of a circle. Practice finding the measures of major and minor arcs
	Theorems (2)	Prove theorems that relate to tangents, arcs, and chords of a circle. Practice finding the measures of major and minor arcs
	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
	Special Angles Type 2	Identify angles formed by intersecting secants. Solve for angle and arc measures when secant lines intersect inside a circle
	Special Angles Type 3	Solve for angle and arc measures when secant lines intersect outside a circle
	Special Segments	Find the lengths of chords, secants, and tangents
	Construction: Circles	Construct a circle circumscribed by a triangle. Construct a circle circumscribing a triangle

Unit	Lesson Title	Lesson Objectives
7 - GEOMETRY: AREA AND VOLUME		
	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
	Area of Rectangles	Find the area of a rectangle. Solve problems involving areas of rectangles
	Area of Parallelograms	Find the area of a parallelogram. Solve problems involving areas of paralelograms
	Area of Triangles and Rhombuses	Find the area of a triangle. Find the area of a rhombus
	Area of Trapezoids	Find the area of a trapezoid
	Area of Regular Polygons	Define and identify regular polygons. Find the area and other measures of regular polygons
	Area Comparison of Polygons	Find area and linear measures such as side length of regular polygons that are similar
	Construction: Polygons	Construct a rectangle, parallelogram, hexagon, and octagon
	Circles: Circumference and PI	Find the circumference of a circle when given the radius. Find the radius of a circle when given the circumference
	Circles: Area of Circles	Find the area of a circle. Find the area of a circle that is similar to another circle
	Circles: Area of Sectors	Find the area of a sector, or "slice" of a circle. Find the arc length of a sector
	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
	Solids: Prisms	Find the surface area and volume of a prism
	Solids: Pyramids	Find the surface area and volume of a pyramid
	Solids: Cylinders	Find the surface area and volume of a cylinder
	Solids: Cones	Find the surface area and volume of a cone
	Solids: Spheres	Find the surface area and volume of a sphere
	Construction: Dividing a Segment	Divide a segment into a given number of equal segments
	Construction: 4th Proportion	Construct a line segment that is in proportion to the other three
	Construction: Geometric Mean	Construct a line segment that is the geometric mean of two given line segments

Unit	Lesson Title	Lesson Objectives
8 - COORDINATE GEOMETRY		
	Symmetry	Find points of symmetry. Find lines of symmetry. Find planes of symmetry
	Ordered Pairs: Points in a Plane	Plot points on a coordinate plane
	Graphs of Algebraic Sentences	Review and practice graphing linear equations. Review and practice graphing linear inequalities
	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
	Equation of a Circle	Find equation for a circle in the coordinate plane
	Midpoint Formula	Find the midpoint of line segments. Solve problems by using the midpoint formula
	Slope	Calculate slope of a line. Test points to determine whether they are collinear (on the same line)
	Parallel and Perpendicular Lines	Determine if lines are parallel, perpendicular, or neither (skew). Use properties of lines to prove theorems
	Equations of Lines	Find the equation of a line given two points. Find the equation of a line given a point and a slope
	Figures in the Coordinate Plane	Find properties and measures of shapes using the coordinate plane. Use coordinate techniques to prove geometric statements
	Proofs with Coordinate Geometry (1)	Prove theorems about plane figures using coordinate geometry
	Proofs with Coordinate Geometry (2)	Prove theorems about plane figures using coordinate geometry
9 - GEOMETRY: TRANSFORMATIONS		
	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
	Isometry: Reflection	Find the image of a shape after a reflection
	Isometry: Translation	Find the image of a shape after a translation
	Isometry: Rotation	Find the image of a shape after a rotation
	Dilation: Congruence and Similarity	Tell the difference between a contraction and an expansion. Find the image of points after a dilation
	Product Transformation	Find the result of combining multiple transformations
	Inverse and Identity Transformation	Identify the inverse of a transformation
	Symmetry Review	Find points of symmetry. Find lines of symmetry. Find planes of symmetry
10 - GEOMETRY REVIEW		
	History of Geometry	Review Unit 1 (Geometry: Introduction)
	Geometry as a System	Review Unit 2 (Geometry: Logic)
	Geometry Proofs	Review Unit 2 (Geometry: Logic)
	Angle Relationships and Parallels	Review Unit 3 (Geometry: Angles and Parallels)
	Congruent Triangles and Quadrilaterals	Review Unit 4 (Geometry: Congruent Triangles and Quadrilaterals)
	Similar Polygons	Review Unit 5 (Geometry: Similar Polygons)
	Circles	Review Unit 6 (Geometry: Circles)
	Area and Volume	Review Unit 7 (Geometry: Area and Volume)
	Coordinate Geometry	Review Unit 8 (Geometry: Coordinate Geometry)

Algebra II

Unit	Lesson Title	Lesson Objectives
1 - ALGEBRA II - SET, STRUCTURE, AND FUNCTION		
	Properties of Sets	Find the subsets of a set. Count the number of elements in a set
	Operations of Sets	Find the intersection of two sets. Find the union of two sets
	Structure: Axioms	Review the axioms and properties of Algebra. Review the mathematical operations (+, -, *, /)
	Structure: Applications	Review the distributive property and order of operations
	Relations and Functions: Definitions	Identify functions and relations, and tell the difference between them. Find the domain and range of a function
	Relations and Functions: Graphs	Determine whether or not a given graph represents a function. Match a set of ordered pairs with its graph
	Relations and Functions: Function Notation	Evaluate a function at any point
	Relations and Functions: Inverses	Find the inverse of a function or set of ordered pairs
	Algebraic Expressions: Exponents Part 1	Write exponents in expanded (non-exponential) form
	Algebraic Expressions: Exponents Part 2	Evaluate expressions, including negative and zero exponents
	Multiplication and Division Part 1	Review exponent rules for multiplication and division of like bases
	Multiplication and Division Part 2	Review exponent rules for multiplication and division of like bases
	Exponents of Exponential Expressions	Review exponent rules for exponentiation of powers
	Algebraic Expressions: Combining Terms	Review the process of simplifying expressions and combining like terms
2 - ALGEBRA II - NUMBERS, SENTENCES, AND PROBLEMS		
	Number Order and Absolute Value	Solve absolute value equations. Use equal, greater than, and less than signs to order numbers
	Sums and Products	Review addition and multiplication of signed numbers
	Solving Equations	Review and practice solving linear equations with the addition property
	Multiplication Property	Review and practice solving linear equations with the multiplication property
	Multi-step Equations	Solve linear equations using both multiplication and addition properties
	Equations with Parentheses	Solve equations with parentheses by using the distributive property
	Literal Expressions	Substitute values to evaluate literal expressions. Solve literal equations
	Solving Inequalities	Solve linear equalities. Differentiate between the multiplication property of inequality and the multiplication property of equality
	Graphing Solution Sets for Inequalities	Graph the solution sets for inequalities
	Compound Sentences	Solve absolute value inequalities. Graph compound inequalities
	Number Problems	Solve word problems with whole numbers
	Motion Problems	Solve problems involving rate, distance, and time
	Miscellaneous Problems	Solve practical real-world problems

Unit	Lesson Title	Lesson Objectives
3 - ALGEBRA II - LINEAR EQUATIONS AND INEQUALITIES		
	Line Graphs	Evaluate two-variable equations and find ordered pairs. Identify linear and nonlinear equations
	Line Graphs by Two Points	Graph linear equations. Determine if two lines are parallel or perpendicular
	Slope of Lines Part 1	Compute the slope of a line
	Slope of Lines Part 2	Use the slope of a line to calculate missing coordinates. Find collinear points
	Equations: Point Slope Part 1	Use the point-slope technique to find the equation of a line from its graph
	Equations: Point Slope Part 2	Use the point-slope technique to find the equation of a line from its graph
	Equations: Point Slope Part 3	Find the equation of a line when given two points on the line
	Equations: Slope-Intercept	Write equations of a line in slope-intercept form
	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
	Solutions for Systems of Equations	Solve a system of two equations using graphical methods
	Solutions by Addition	Solve a system of two equations by using the addition property of equality
	Solutions by Multiplication and Addition	Solve a system of two equations by using the addition and multiplication properties of equality
	Solutions by Substitution	Solve a system of two equations by using the substitution property of equality
	Application of Systems of Equations	Apply your knowlegde of systems of equations to solving word problems
	Solving Inequalities	Graph the solution sets for linear inequalities
	Solving Two-order Inequalities	Graph the solution sets for linear inequalities
4 - ALGEBRA II - POLYNOMIALS		
	Products and Factoring	Simplify product expressions
	Multiplying Polynomials by Polynomials	Multiply binomials and trinomials
	Using Special Products Part 1	Find special products such as the perfect square trinomial. Find the difference of two squares
	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
	Factoring Trinomials	Factor trinomials
	Factoring Special Products Part 1	Factor trinomials using the difference of two squares
	Factoring Special Products Part 2	Factor trinomials using the difference of two cubes
	Addition and Subtraction Operations	Add and subtract polynomials
	Division with Polynomials	Perform long division of polynomials
	Synthetic Division	Use shorthand 'synthetic' division to divide two polynomials
	Direct Variation	Solve word problems that involve direct variation of two quantities
	Inverse Variation	Solve word problems that involve inverse variation of two quantities
	Joint and Combined Variation	Solve word problems that involve joint or combined variation of three quantities

Unit	Lesson Title	Lesson Objectives
5 - ALGEBRA II - ALGEBRAIC FRACTIONS		
	Multiplying and Dividing with Fractions	Simplify algebraic expressions. Evaluate algebraic expressions
	Reducing Rational Expressions	Simplify algebraic expressions. Reduce fractions
	Multiplying Algebraic Fractions	Multiply algebraic expressions
	Dividing Algebraic Fractions	Divide algebraic expressions
	Adding and Subtracting Algebraic Fractions	Find the common denominator of algebraic fractions. Add and subtract fractions
	Addition and Subtraction	Add and subtract algebraic fractions
	Mixed Expressions and Complex Fractions	Change mixed numbers to simple algebraic fractions. Change complex fractions to simple algebraic fractions
	Equations with Fractions	Solve equations that contain algebraic fractions
	Fractional Equations	Solve equations that contain variables in the denominator of a fraction
	Proportions	Solve proportions of algebraic equations that have one variable
	Applications of Fractions	Use skills of working with algebraic fractions to solve word problems
	Mixture Problems	Solve mixture problems
	Work Problems	Solve problems that involve the measurements of 'Work' energy
6 - ALGEBRA II - REAL NUMBERS		
	Real Numbers	Identify a number as Rational or Irrational. Write the fractional equivalent of a Rational decimal number
	Law of Radicals	Change a radical expression to the equivalent expression with fractional exponents. Evaluate and simplify radical expressions and fractional exponent expressions
	Conjugates	Define a conjugate. Use conjugates to rationalize the denominator of an algebraic expression
	Radical Equations	Determine whether or not a radical equation has solution(s)
	Quadratic Equations	Solve quadratic equations
	Factoring Quadratic Equations	Solve quadratic equations by the factoring method
	Completing the Square	Solve quadratic equations by completing the square
	Quadratic Formula	Derive the quadratic formula. Use the quadratic formula to solve quadratic equations
	Word Problems Involving Quadratic Equations	Solve word problems by setting up and solving a quadratic equation using the quadratic formula
	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
	The Discriminant	Find the discriminant of a quadratic equation. Use the discriminant to determine what kinds of solutions a quadratic equation has
	Imaginary Numbers	Simplify imaginary expressions. Simplify complex numbers

Unit	Lesson Title	Lesson Objectives
7 - ALGEBRA II - QUADRATIC RELATIONS AND SYSTEMS		
	Distance Formula	Use the distance formula to find the distance between two points
	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
	Ellipse	Find the length of the major axis of an ellipse. Find the length of the minor axis of an ellipse
	Ellipse Continued	Find the equation of an ellipse. Graph an ellipse given an equation. Find the foci of an ellipse
	Conic Sections: Parabola	Graph a parabola. Find the directrix of a given parabola. Find the focus of a given parabola
	Conic Sections: Parabola Continued	Determine the direction in which a parabola opens. Find the quadrant(s) in which a parabola resides
	Conic Sections: Hyperbola	Graph a hyperbola. Write the equation of a hyperbola
	Conic Sections: Hyperbola Continued	Find the equation of a hyperbola. Graph a hyperbola
	Identifying Conic Sections	Identify a quadratic equation as a circle, parabola, hyperbola, or ellipse
	Systems of Equations	Solve a system of equations
	Systems of Inequalities	Graph the solution to a system of inequalities
	Applications of Conic Sections	Find the equation of a hyperbola that represents a physical situation
	Applications Continued	Find the equation of a conic section that represents a physical situation
	Applications Continued Again	Find the equation of a hyperbola that represents a physical situation
	Constant of Proportionality	Find the conic section that represents a given physical situation

Unit	Lesson Title	Lesson Objectives
8 - ALGEBRA II - EXPONENTIAL FUNCTIONS		
	Exponential Functions	Evaluate exponential functions. Simplify exponential functions
	Fractional Exponents	Evaluate expressions with fractional exponents. Simplify expressions with fractional exponents
	Exponential Equations	Solve exponential equations
	Graphing Exponential Functions	Complete ordered pairs for an exponential function
	Exponential Applications	Solve application word problems with exponential equations
	Logarithmic Functions	Express an exponential equation in logarithmic form. Express a logarithmic function in exponential form
	Evaluation of Logarithms	Evaluate logarithmic functions
	Mantissas	Find common logarithms. Use the mantissa to evaluate logarithmic expressions
	General Properties of Logarithms	Use the properties of logarithms to rewrite a logarithmic expression in a different form
	Scientific Notation	Express decimal numbers in scientific notation
	Calculation of Common Logarithms	Use tables to evaluate common logarithms. Use tables to evaluate an antilog
	Graphs of Logarithmic Functions	Complete ordered pairs for a logarithmic function. Graph a logarithmic function
	Computation with Logarithms	Compute mathematical expressions using logarithms. Solve equations using properties of logarithms
	Logarithmic Applications	Solve word problems using logarthmic functions
	Matrices	Identify entries in a matrix by row and column
	System Solutions with Matrices	Use the matrix method to solve a system of equations
	Addition and Multiplication of Matrices	Perform addition of matrices. Perform subtraction of matrices
	Interpretations Using Matrices	Use matrices to interpret situations and solve application problems
9 - ALGEBRA II - COUNTING PRINCIPLES		
	Progressions: Sequences	Indicate the general term of a sequence. Find the nth term in a sequence
	Progressions: Series	Differentiate between a finite and an infinite series. Differentiate between an arithmetic and a geometric series
	Permutations: Factorials	Evaluate factorial expressions
	Permutation Formula	Define permutation. Calculate the number of permutations of r elements from a set of n elements
	Permutations: Applications	Use permutations to solve application problems
	Combination Formula	Calculate the number of combinations of r elements from a set of n elements
	Combinations: Applications	Use combinations to solve application problems
	Combinations: Binomial Coefficients	Find powers of binomials with Pascal's triangle. Demonstrate knowledge of the pattern of Pascal's triangle
	Probability: Concepts	Explore the uses and limitations of probability theory. Calculate probabilities in single-step experiments
	Probability: Equally Likely Outcomes	Define the counting principle. Use the counting principle to calculate the probability of complex events
	Probability: Multiplication Principle	Define independent and dependent events. Use the multiplication principle to calculate the probability of complex events
	Conditional Probability	Use conditional probability to calculate the probability of events

Unit	Lesson Title	Lesson Objectives
10 - ALGEBRA II - REVIEW		
	Integers	Restate the axioms of algebra. Identify terms about graphing functions
	Integers Continued	Find the intersection and union of sets. Evaluate functions. Simplify exponential expressions, including exponential expressions
	Open Sentences	Restate axioms and terms of algebra. Simplify numerical expressions, including absolute value
	Open Sentences Continued	Solve linear equations and inequalities. Solve absolute value equations and inequalities
	Graphs	Restate definitions of graphing. Find the equation of a line. Write the equation of a line in standard form
	Graphs Continued	Graph linear equations. Solve a system of linear equations. Graph linear inequalities. Solve word problems with systems of equations
	Polynomials	Find the product of polynomial expressions
	Polynomials Continued	Factor polynomials. Divide polynomials by long division. Divide polynomials with synthetic division. Add and subtract polynomials. Solve direct and joint variation problems
	Algebraic Fractions Part 1	Simplify algebraic expressions. Find the exclusions for a rational expression
	Algebraic Fractions Part 2	Add and subtract rational expressions. Multiply and divide rational expressions
	Algebraic Fractions Part 3	Simplify mixed expressions. Simplify complex expressions. Solve equations with mixed and complex expressions
	Real Numbers	Simplify radical expressions. Solve radical equations
	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
	Quadratic Relations and Systems	Identify the type of conic section from its equation
	Quadratics Continued	Identify the equation of a conic section. Identify the coordinates of characteristics of conic sections. Solve systems of quadratic and linear equations
	Exponential Functions	Add and subtract matrices. Simplify expressions with zero and negative exponents. Graph exponential equations
	Exponential Functions Continued	Evaluate logarithms. Write exponential equations in logarithmic form. Multiply matrices. Solve a system of linear equations
	Counting Principles	Find the nth term of a sequence. Identify a sequence as arithmetic or geometric. Identify a series as finite or infinite
	Counting Principles Continued	Calculate permutions and combinations. Represent a series as a summation. Find probabilities. Find conditional probabilities

Pre-Calculus

Unit	Lesson Title	Lesson Objectives
1 - PRECALCULUS: RELATIONS AND FUNCTIONS		
	Ordered-Pair Numbers: Relations	List the domain and range of a given relation. Find or complete ordered pairs of a given relation
	Ordered-Pair Numbers: Functions	List the domain and range of a given function. Find or complete ordered pairs of a given function
	Ordered-Pair Numbers: Rules of Corre	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
	Algebra of Functions: Notation	Know the difference between the dependent and independent variable. Evaluate functions at different domain values
	Algebra of Functions: Arithmetic	Add, subtract, multiply, and divide functions
	Algebra of Functions: Composition	Write the composition of two functions. Evaluate a function whose domain is another function
	Algebra of Functions: Inverse	Find the inverse of a function
2 - PRECALCULUS: FUNCTIONS		
	Linear Functions: Graphs	Graph functions. Find the 'roots' of functions. Find the x- and y-intercepts
	Linear Functions: Equations	Find the slope of a linear equation. Write the function that satisfies given conditions
	2nd-Degree Functions: Solutions	Solve quadratic equations by factoring. Solve quadratic equations with the Quadratic Formula
	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
	Quadratic Inequalities	Solve quadratic inequalities. Graph quadratic inequalities
	Polynomial Functions	Use synthetic division to divide polynomials. Determine if one polynomial is a factor of another
	Nth-Degree Equations	Find the roots of polynomial functions. Find upper and lower limits for the roots of polynomial functions
	Greatest Integer Function	Graph the greatest integer function
	Exponential Function	Graph the exponential function
	Logarithmic Function	Graph a logarithmic function. Find the inverse of a logarithmic function
	Function Combinations	Graph compositions of functions
3 - PRECALCULUS: TRIGONOMETRIC FUNCTIONS		
	Definition of the Trigonometric Functions	Know basic properties of the trigonometric functions. Name and define the trigonometric functions
	Evaluation of Functions	Recognize the graph of a trigonometric value
	Angle Location	Find the quadrant in which a given angle resides
	Reduction Formulas	Reduce a large angle to its corresponding acute angle. Evaluate trigonometric functions using angle reduction formulas
	Quadrantal Angles	Define a quadrantal angle. Convert a trigonometric expression to the corresponding expression with a positive acute angle
	Special Angles	Define special angles. Use the properties of the special angles to evaluate trigonometric functions
	Radian Measure	Define the radian. Convert angle measures in degrees to radians

Unit	Lesson Title	Lesson Objectives
4 - PRECALCULUS: CIRCULAR FUNCTIONS AND THEIR GRAPHS		
	Circular Functions	Use the unit circle to find the positions of points and angle measures
	Circular Functions of Special Angles	Convert angle measures in degrees to angle measures in radians. Add, subtract, and multiply trigonometric expressions
	Graphs of Sin and Cos	Graph the sine and cosine functions. Find the range and domain of the sine and cosine functions
	Other Graphs	Graph the tangent, cotangent, secant, and cosecent functions. Find the range and domain of the tangent, cotangent, secant, and cosecent functions
	Applications	Find arc length and angular velocity when solving application problems
	Amplitude of Circular Functions	Define the amplitude of a circular function. Find the amplitude of a circular function
	Period of Circular Functions	Define the period of a circular function. Find the period of a circular function
	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		
	Reciprocal Relations	Give the definition of an identity. Use reciprocal relation identities to simplify expressions and solve equations
	Pythagorean Relations	Use Pythagorean relation identities to simplify expressions
	Quotient Relations	Use quotient relation identities to simplify expressions
	Trigonometric Identities	Use trigonometric relation identities to simplify expressions
	Cosine of the Sum of Two Angles	Use reciprocal relation identities to simplify expressions
	Additional Sum and Difference Formulas	Use sum and difference formulas to simplify expressions
	Double- and Half-Angle Formulas	Use double- and half-angle formulas to simplify expressions
	Identities	Simplify expressions using any of the trigonometric identities studied so far
	Trigonometric Equations	Solve equations using any of the trigonometric identities studied so far
6 - PRECALCULUS: APPLICATION OF TRIGONOMETRIC FUNCTIONS		
	Trigonometric Functions of Any Angle	Find the sine, cosine, and tangent associated with a given coordinate
	More Trigonometric Functions of Any Angle	Find the missing value in a right triangle problem. Use right triangles in application problems
	Applied Problems	Use trigonometry to solve application problems
	Law of Cosines	Use the law of Cosines to solve for missing values
	Law of Sines	Use the law of Sines to solve for missing values
	More Applications	Solve more application problems
	Inclined Plane Application	Solve inclined plane applications with forces
	Navigation Application	Use trigonometry to solve navigation problems

Unit	Lesson Title	Lesson Objectives
7 - PRECALCULUS: INVERSE TRIGONOMETRIC FUNCTIONS AND POLAR COORDINATES		
	The Inverse Sine Function	Find the solutions of inverse sine functions. Simplify inverse sine expressions. Find solutions with restricted domain
	The Inverse Cosine Function	Find the solutions of inverse cosine functions. Simplify inverse cosine expressions. Find solutions with restricted domain
	The Inverse Tangent Function	Find the solutions of inverse tangent functions. Simplify inverse tangent expressions. Find solutions with restricted domain
	Other Inverse Functions	Find the solutions of other inverse trigonometric functions. Simplify other inverse trigonometric expressions. Find solutions with restricted domain
	Graphs of Inverse Functions	Graph inverse trigonometric functions. Identify the domain and range. Find the principal value of an inverse trigonometric expression
	Graphing Polar Coordinates	Graph points using polar coordinates
	Converting Coordinates	Convert polar coordinates to Cartesian coordinates. Convert Cartesian coordinates to polar coordinates
	Converting Cartesian Equations to Polar Equations	Convert Cartesian equations to polar equations
	Converting Polar Equations to Cartesian Equations	Convert polar equations to Cartesian equations
	Graphing Polar Equations	Graph polar equations
8 - PRECALCULUS: QUADRATIC EQUATIONS		
	The Circle	Find the equation of a circle in standard form. Find the center and radius form the equation of a circle
	The Circle Continued	Find the equation of a circle in general form. Find the domain and range
	Equation from Three Points	Find the equation of a circle when given three points on the circle
	Equation from Three Points Applied	Find the equation of a circle in applied situations
	The Ellipse	Find the properties of an ellipse. Write the standard equation of an ellipse
	The Ellipse: Standard Form	Find the properties of an ellipse. Write the standard equation of an ellipse
	The Ellipse: General Form	Find the properties of an ellipse. Write the general equation of an ellipse
	The Ellipse Applied	Find the equation of an ellipse in applied situations
	The Parabola	Find the properties of a parabola. Graph a parabola
	The Parabola Continued	Find the properties of a parabola. Graph a parabola
	The Parabola: Standard Form	Find the properties of a parabola. Graph a parabola. Write a parabola in standard form
	The Parabola Applied	Use the parabola to solve application problems
	The Hyperbola	Find the properties of a hyperbola
	Translation	Translate points in the Cartesian coordinate plane
	Translation of Equations	Find the center of a conic section and translate the origin to that center
	Rotation	Find the image of a point with respect to a rotation
	Rotation of Equations	Find the image of an equation with respect to a rotation

Unit	Lesson Title	Lesson Objectives
9 - PRECALCULUS: PROBABILITY		
	Definitions, Sample Spaces, and Probability	Find the probability of an event
	Addition of Probabilities	Compute the addition of a probability problem
	Multiplication of Probabilities	Compute and interpret the multiplication of probabilities
	Definitions	Calculate permutations. Calculate combinations
	Permutation of N Things: Different	Calculate the permutation of n different things
	Permutation of N Things: Not All Different	Calculate the permutation of n things in r classes
	Circular Permutations	Calculate circular permutations
	Combinations	Calculate combinations
10 - PRECALCULUS: CALCULUS AND REVIEW		
	Summation	Write the terms of a summation. Evaluate a summation
	Proofs by Mathematical Induction	Complete proofs using mathematical induction
	Functional Notation	Evaluate functions
	Difference Quotient	Given a function, find the difference quotient
	Limits	Evaluate the limit of a function at a point
	Slope of a Line	Use the limit definition to find the slope of a line
	Slope of a Curve	Use the limit definition to find the slope of a curve
	Review Pre Calculus Units 1 and 2	Review Unit 1. Review Unit 2
	Review Pre Calculus Units 3 and 4	Review Unit 3. Review Unit 4
	Review Pre Calculus Units 5 and 6	Review Unit 5. Review Unit 6
	Review Pre Calculus Units 7 and 8	Review Unit 7. Review Unit 8
	Review Pre Calculus Units 9 and 10	Review Unit 9. Review Unit 10

rect variation. Graph direct variations.