Texas Standards Guide

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Placement Grade	TEKS	Lesson Title	Lesson Description
K, 1, 2	M.K.3.B	Addition and Subtraction within 10 Using Models	Add and subtract whole numbers with sums and minuends less than or equal to 10 using models; find the number that makes 10 when added to a given number.
K, 1, 2	M.1.3.F	Addition and Subtraction as Inverse Operations	Apply the inverse relationship between addition and subtraction to solve one-step equations and to model and solve real-world problems.
K, 1, 2	M.1.3.B	Using Addition and Subtraction to Make Comparisons	Solve addition and subtraction problems involving comparison.
K, 1, 2	M.1.3.B	Addition and Subtraction: Fact Fluency	Use mental strategies to add and subtract two whole numbers within 20 that do not involve regrouping in order to increase fact fluency.
K, 1, 2	M.1.2.B MA1.2.C	Modeling and Comparing Numbers to 120	Model whole numbers to 120, and relate them to their standard form; use place value to determine the digit value; compare and order numbers up to 120.
K, 1, 2	M.2.2.A	The Place Value System of Whole Numbers	Model whole numbers to the thousands place, and relate models to the standard form; use place value to determine a digit's value based on its position through thousands.
K, 1, 2	M.2.2.B	Composing, Decomposing, and Ordering Numbers Using Place Value	Compare and order numbers to the millions, and write whole numbers to the millions in standard, word, and expanded forms.
K, 1, 2	M.2.4.B	Addition and Subtraction within 100	Add and subtract whole numbers with sums and minuends less than or equal to 100 using models and place-value strategies, without regrouping.

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3, 4, 5	M.5.9.A M.5.9.B M.5.9.C M.4.9.A M.4.9.B M.3.8.A M.3.8.B	Summarizing Data Using Data Displays	Summarize a data set using a dot plot, bar graph, and stem-and-leaf plot; solve one- and two-step problems using data represented with a variety of data displays.
3, 4, 5	M.5.5 M.4.6.A M.4.6.B M.4.6.C M.4.6.D M.3.6.A M.3.6.B M.4.7.C M.4.7.E	Attributes and Classification of Figures	Classify angles (right, acute, obtuse) and lines (perpendicular, parallel) in two-dimensional figures; classify quadrilaterals based on their attributes and properties; identify lines of symmetry.
3, 4, 5	M.5.4.H M.5.6.A M.5.6.B M.3.6.C M.3.7.B M.4.5.D	Perimeter, Area, and Volume: Concepts and Units	Express perimeter, area, and volume using appropriate measurements; determine which kind of measurement is appropriate for a given real-world situation.
3, 4, 5	M.5.4.H M.5.6.A M.5.6.B M.3.6.C M.3.7.B M.4.5.D	Perimeter, Area, and Volume: Calculations	Calculate perimeter and area of rectangles and volume of rectangular solids, including real-world problems.
3	M.3.6.C	Connecting Area and Multiplication	Use area models to represent multiplication; find the area of a rectangle by multiplying the side lengths.

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3	M.3.6.D	Decomposing Shapes to Find Area	Find area by decomposing composite shapes into rectangles and adding the areas; use area models to represent the distributive property.
3	M.3.5.D	Unknowns in Multiplication and Division Equations	Determine the unknown whole number in multiplication and division equations relating three whole numbers.
3	M.3.4.F	Multiplication and Division: Fact Fluency	Use mental strategies to multiply and divide two whole numbers within 100 to increase fact fluency; solve real-world problems quickly using fact fluency.
3	M.3.5.A M.3.5.B M.3.4.A M.3.4.K	Multistep Word Problems	Solve real-world problems with two operations involving whole numbers.
3	M.3.3.F	Visual Models of Fractions	Compare fractions with the same denominator using visual models, including real-world problems; relate a fraction to its visual representation as a circle diagram in both directions or a fraction bar in both directions, explaining the role of the numerator and denominator.
3	M.3.7.A M.3.3.H	Fractions on the Number Line	Compare fractions with the same denominator using the number line, including real-world problems; represent fractions on a number line.
4	M.4.8.A M.4.8.B M.4.8.C	Problem Solving within Measurement Systems	Know relative sizes of measurement units within one system of units; solve word problems involving distances, time, liquid volumes, and masses of objects.
4	M.5.4.A	Factors and Multiples	Describe numbers according to their characteristics (factors, multiples, prime, and composite); solve real-world problems to find factors or multiples.
4	M.4.2.B	Place Value Concepts up to 1,000,000,000	Identify the value of a digit in whole numbers through 1,000,000,000; write whole numbers through 1,000,000,000 in expanded and word forms; compare two whole numbers through 1,000,000,000.
4	M.4.5.A	Multistep Real-World Problems with Whole Number Operations	Identify a set of equations or steps that can be used to solve a word problem containing whole numbers, including multistep problems in which remainders must be interpreted.

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4	M.4.3.D	Benchmark Fractions	Choose the benchmark nearest a given fraction; compare a fraction to a benchmark, including finding equivalent fractions; may include real-world problems.
4	M.4.3.D	Comparing Fractions via Benchmark Fractions	Use benchmark fractions to compare fractions and to order 3 or more fractions; compare and order real-world measurements using a benchmark.
4	M.4.3.D	Using Equivalent Fractions to Compare Fractions	Compare two fractions with different denominators; compare two fractions with different denominators including at least one mixed number; order three or more fractions with different denominators, including those with at least one mixed number; rewrite fractions to have a common denominator.
4	M.4.3.E	Adding and Subtracting Fractions	Find an equivalent form of a computed sum or difference, including lowest terms; model and compute sums and differences of fractions when the denominator is the same, including real-world problems.
4	M.4.2.G	Working with Fractions with Denominators of 10 and 100	Add two fractions with denominators 10 and 100 using a common denominator; write fractions with denominators 10 or 100 as decimals and vice versa.
5	M.5.3.L	Unit Fractions and Whole Number Division	Divide a unit fraction by a whole number and vice versa; use unit fraction and whole number division to solve real-world problems.
5	M.5.7.A	Converting Measurements	Convert measures within both metric and customary systems to solve mathematical and real-world problems.
5	M.5.4.F	Interpreting and Simplifying Multistep Expressions	Evaluate expressions with and without grouping symbols using multiple operations; solve real-world problems involving multistep operations; identify expressions involving multiple operations that model problems.
5	M.5.8.A M.5.8.B M.5.8.C	Introduction to Graphing Points and Scatterplots	Identify the positive integer coordinates of a point graphed in the coordinate plane; graph points with positive integer coordinates; represent discrete paired data on a scatterplot.

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5	M.5.4.C M.5.8.C M.3.5.E	Introduction to Related Numerical Patterns	Generate two numerical patterns using two given rules; identify apparent relationships between corresponding terms in two related numerical patterns; form ordered pairs consisting of corresponding terms from two patterns, and graph the ordered pairs on a coordinate plane.
5	M.5.3.K	Using Equivalent Fractions to Add and Subtract Fractions	Add and subtract two fractions with different denominators, including real-world problems; use visual representations to add and subtract fractions with denominators that are different but compatible, including real-world problems.
5	M.5.2.B	Comparing Decimals	Compare decimals using various place value strategies and real-world measurements.
5	M.4.4.A	Adding Decimals	Add decimals using a variety of strategies, including counting up and the standard algorithm; use decimals to find real-world sums involving money.
5	M.4.4.A	Subtracting Decimals	Subtract by place value using a variety of strategies including counting up and the standard algorithm; solve real-world problems involving subtraction of decimals.
5	M.5.3.E	Multiplying and Dividing Decimals by a Power of 10	Multiply and divide decimals by powers of 10, including real-world problems.
5	M.5.3.E	Multiplying a Whole Number by a Decimal Less than 1	Multiply whole numbers by decimals less than one, including real-world problems; use rounding to estimate a product before computing as a means of developing a sense of the size of the product, including real-world problems.
5	M.5.3.E	Multiplying Decimals	Multiply decimals to the hundredths place, including real-world problems; use rounding to estimate a product before computing as a means of developing a sense of the size of the product, including the position of the decimal point in the product, including real-world problems.
6	M.6.4.B	Describing Part-to-Part Relationships	Use models to represent relationships between quantities; describe ratio relationships between two quantities using informal language.
6	M.6.4.B	Using Ratio Notation	Use the notation of ratio language to describe relationships between two quantities.
6	M.6.4.B	Equivalent Ratios	Find missing values in a table using ratio reasoning; analyze patterns in a table of equivalent ratios.
6	M.6.4.B	Understanding Unit Rates	Find unit rates.

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6	M.6.4.B	Comparing Ratios	Compare ratios in mathematical contexts, including using visual models.
6	M.6.4.B	Ratios in Real-World Situations	Compare ratios in real-world contexts.
6	M.6.4.H	Measurements in the Customary System	Convert units of measurement (capacity, length, time, weight) in the customary system, including real-world problems.
6	M.6.4.H	Measurements in the Metric System	Convert metric units of measurement, including solving real-world problems.
6	M.6.4.B	Converting Measurements between Systems	Convert measurement units between the customary and metric systems.
6	M.6.4.B	Understanding Speed	Convert measures of speed within a system; find speed given distance and time.
6	M.6.4.B	Unit Pricing	Find unit prices, and use them to solve unit rate problems.
6	M.6.3.E	Dividing a Fraction by a Whole Number	Divide a fraction by a whole number equal to the fraction's numerator in real-world situations.
6	M.6.3.E	Fraction Multiplication	Multiply fractions using models and the standard algorithm including real-world problems.
6	M.6.3.E	Dividing a Fraction by a Fraction	Use models to divide a fraction by a fraction.
6	M.6.3.E	Finding a Rule for Dividing Fractions	Use the standard algorithm to divide fractions
6	M.6.3.E	Fraction Multiplication and Division	Solve real-world problems using fraction multiplication and fraction division.
6	M.5.3.K	Adding and Subtracting Decimals	Add and subtract decimals.
6	M.6.7.A	Prime Numbers and Prime Factorization	Identify a number as prime or composite; represent a number as the product of its prime factors, using exponents to show repeated factors.

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6	M.6.3.E	Using a Rule to Find Decimal Products	Multiply decimals, and use a rule to place the decimal point in a product; use estimation to determine reasonableness.
6	M.6.3.E	Dividing Whole Numbers	Divide whole numbers with and without remainders, writing remainders as terminating or repeating decimals; includes real-world problems.
6	M.6.3.E	Dividing Decimals	Divide whole numbers by decimals, and divide decimals by decimals; use estimation to determine reasonableness.
6	M.6.5.B	Understanding Percent	Solve problems involving percents of 100; use models to illustrate the meaning of percents; convert fractions to percents by finding an equivalent fraction over 100.
6	M.6.4.G	Fraction-Decimal-Percent Equivalents	Find equivalent forms of fractions, decimals, and percents without models.
6	M.6.5.B	Using Multiplication to Find Percents	Find a percent of a number using multiplication.
6	M.6.5.B	Using Equivalent Ratios to Find Percents	Represent percent problems using equivalent ratios; find the part of a whole that is not a multiple of 100, given a percent.
6	M.6.5.B	Using Equivalent Ratios to Find a Whole	Use equivalent ratios to find the whole, given the percent.
6	M.6.11.A	Integers on the Number Line	Identify integers, and graph them on number lines; find the opposite of an integer.
6	M.6.2.D	Comparing Rational Numbers	Graph rational numbers on a number line; compare rational numbers using symbols =, <, and >.
6	M.6.2.D	Ordering Rational Numbers	Order rational numbers; write and interpret statements of comparison for rational numbers in real-world contexts.
6	M.6.11.A	Plotting Points in the Four Quadrants	Graph and name points in all four quadrants; identify the quadrant a point lies in.
6	M.6.13.A	Describing Data on Dot Plots	Describe a data set as shown on a dot plot, using the center, spread, and overall shape; compare data sets using the center, spread, and overall shapes of two dot plots.

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6	M.6.13.A	Representing Data Sets with Histograms	Display data on a histogram, and describe the data set using the center, spread, and overall shape.
6	M.6.13.A	Data Representation	Read or interpret a line plot, a bar graph, a line graph, and a stem and leaf plot; identify an appropriate representation for displaying different data sets.
6	M.6.12.C	Finding the Mean	Calculate the mean of a set of data; find a missing value given the mean.
6	M.6.12.C	Comparing Mean and Median	Find the median of a set of data; describe the impact of outliers on the mean and median; choose the most appropriate measure of center to describe a set of data.
6	M.6.12.C	Range and Interquartile Range	Find the range and the interquartile range of a set of data; describe the impact of outliers on the range and interquartile range.
6	M.6.12.C	Summarizing Data Sets with Statistics	Compare two data sets with the same measure of center but different measures of spread.
6	M.6.13.A	Box Plots	Interpret and create a box plot.
6	M.6.13.A	Data Displays and Statistics	Interpret the shape of a data set in the context of the way in which data was collected; compare two data sets using measures of center and spread.
6	M.6.12.D	Interpreting Percent Bar Graphs	Read or interpret a percent bar graph; match a frequency table to a related percent bar graph and vice versa.
6	M.6.7.A	Numerical Expressions with Exponents	Write numerical expressions without exponents and with whole number exponents; evaluate numerical expressions without exponents and with exponents.
6	M.6.7.D	Equivalent Expressions	Generate equivalent expressions using the commutative and associative properties; use substitution to determine if two expressions without parentheses are equivalent.
6	M.6.7.D	Equivalent Expressions and the Distributive Property	Generate equivalent expressions using the distributive property; use substitution to determine if two expressions are equivalent expressions; may include parentheses.
6	M.6.7.D	Determining Equivalent Expressions	Determine whether two expressions are equivalent, and explain why they are or are not equivalent.

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Placement Grade	TEKS	Lesson Title	Lesson Description
6	M.6.10.A	Solving One-Step Equations: Addition and Subtraction	Solve one-step addition and subtraction equations.
6	M.6.10.A	Solving One-Step Equations: Multiplication and Division	Solve one-step multiplication and division equations.
6	M.6.10.A	Modeling Real-World Problems with One-Step Equations	Model, write, and solve real-world problems using one-step variable equations involving addition, subtraction, multiplication, and division of nonnegative rational numbers.
6	M.6.8.D	Area of Parallelograms	Use a formula with = to find the area of a parallelogram, including real-world problems.
6	M.6.8.D	Area of Triangles	Calculate the area of triangles using a formula with =, including real-world problems.
6	M.6.8.D	Area of Special Quadrilaterals	Find the area of special quadrilaterals, including real-world problems.
6	M.6.8.D	Area of Irregular Figures	Calculate the area of irregular figures, including real-world problems.
6	M.6.8.D	Shapes with Fractional Side Lengths	Find the area of triangles and rectangles that have fractional or decimal side lengths, including real-world problems and problems with both decimals and fractions; find the area of irregular figures that have decimal side lengths, including the same types of problems.
6	M.6.8.D	Solving Volume Problems with Formulas	Calculate the volume of a rectangular prism with one or more fractional or decimal side lengths using a formula; find the value of an unknown dimension of a rectangular prism, given the remaining dimensions and the volume.
6	M.6.12.D	Interpreting Two-Way Tables	Compute relative frequencies and identify associations in a two-way table; generate conclusions of the data.
7	M.7.6.G	Circle Graphs	Interpret circle graphs, and use them to make predictions; construct a circle graph to display data.

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7	M.7.4.D	Unit Rates	Use a given unit rate and proportional reasoning to complete a table and solve problems.
7	M.7.4.D	Finding a Constant of Proportionality	Find the constant of proportionality from verbal descriptions, tables, graphs, and diagrams.
7	M.7.4.D	Applications of Unit Rates	Determine a unit rate from a real world context; apply unit rates to solve for an unknown in real world problems; use unit rates to make comparisons.
7	M.7.4.A	Graphing Proportional Relationships	Graph a proportional relationship from tables and from verbal descriptions; identify the meanings of points on the graph of a proportional relationship; determine the characteristics of such a graph.
7	M.7.4.A	Identifying Proportional Relationships	Analyze data in tables and graphs to determine if the given relationships are proportional.
7	M.7.4.D	Introduction to Percents	Identify an equivalent percent, fraction, or decimal represented in multiple forms; create diagrams to solve for a percent in real world problems; find the percent of a number using the fractional or decimal equivalent form of a percent to write an expression from a diagram.
7	M.7.4.D	Finding a Percent of a Number	Solve problems by finding the percent of a number, including amounts of gratuity and tax, by using diagrams and expressions; find the percent of a number when the percent is more than 100.
7	M.7.4.D	Finding a Total Amount	Solve for the total amount in gratuity, tax, or commission problems by using diagrams and expressions, understanding that it is a process of adding to the original amount; find the total, including discounts, understanding that it is a process of subtracting from the original amount.
7	M.7.4.D	Finding an Original Amount	Find the original amount in real world percent problems involving gratuity, tax, commission, markup, discount, or markdown.
7	M.7.4.D	Percent Increase and Decrease	Find the percent change by using the ratio of change in quantity to original amount; use percent increase and decrease to solve real world problems.
7	M.7.4.D	Applications of Percent	Solve multi-step percent problems involving tax, gratuity, commission, markup, discount, and markdown.
7	M.7.4.D	Percent Error	Find percent error by using the ratio of amount of change to actual value.

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7	M.6.3.D	Adding Integers	Use visual representations and apply properties of operations to add integers, including real-world problems.
7	M.6.3.D	Subtracting Integers	Use visual representations, additive inverse, and properties of operations to subtract integers, including real-world problems.
7	M.6.3.D	Multiplying Integers	Use visual representations, properties of operations, and rules of signed numbers to multiply integers, including real-world problems.
7	M.6.3.D	Dividing Integers	Use visual representations, properties of operations, and rules of signed numbers to divide integers, including real-world problems.
7	M.8.2.D	Rational Numbers	Represent positive and negative rational numbers on vertical number lines and horizontal number lines; write a rational number as a decimal that eventually terminates or repeats; describe real-world situations that can be represented by rational numbers, including where opposite quantities combine to make 0.
7	M.7.3.B	Adding and Subtracting Fractions	Add and subtract rational numbers in fraction form, including with the use of visual representations.
7	M.7.3.B	Multiplying Fractions	Multiply rational numbers in fraction form; use the rules of signed numbers and properties of operations to multiply fractions; estimate products of fractions.
7	M.7.3.B	Dividing Fractions	Divide rational numbers in fraction form; use the rules of signed numbers and properties of operations to divide fractions; estimate quotients of fractions.
7	M.7.3.B	Solving Problems Involving Rational Numbers	Solve real-world and mathematical problems involving addition, subtraction, multiplication, and division with rational numbers.
7	M.7.6.I	Understanding Probability	Identify an event with a given probability as impossible, unlikely, likely, or certain; describe the probability of an event as a number between 0 and 1, which represents the likelihood of the event; use the fact that the sum of the probabilities of all possible outcomes is 1 to find the probabilities of complementary events.
7	M.7.6.H	Experimental Probability	Find the experimental probability of an event, expressing it as a ratio and using it to make predictions.

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7	M.7.6.I	Experimental vs. Theoretical Probability	Compare experimental results to theoretical probabilities and make conjectures about the results; explain possible sources of discrepancy between the theoretical and experimental probability of an event.
7	M.7.6.I	Compound Events and Sample Space	Represent the sample space of a compound event with a table, a tree diagram, and a list, and find all of its outcomes.
7	M.7.6.I	Probability of Compound Events	Find probabilities of independent and dependent compound events using organized lists, tables, or tree diagrams.
7	M.7.6.H	Simulations to Estimate Probabilities	Design a simulation to experimentally determine the probability of compound events; use a simulation to generate frequencies for compound events.
7	M.7.6.G M.7.12.A	Analyzing Dot Plots	Informally compare shapes of two different data distributions with similar variations; analyze two dot plots with similar variation by comparing the measures of center.
7	M.7.6.G M.7.12.A	Comparing Measures of Center and Variability	Analyze two numerical data distributions with similar variation by comparing the measures of center to the measure of variability; compare the measures of center of two sets of data using a multiple of the measure of variability, expressed as a ratio; draw an informal comparative inference about two sets of data.
7	M.7.6.G M.7.12.A	Comparing Box Plots	Compare two data sets with different numbers of data points by comparing two box plots; compare two data sets by comparing the difference in the measures of center and the measures of variability; draw an informal comparative inference about two sets of data.
7	M.7.11.A	Writing Equations	Write equations from words, including those that represent real-world situations.
7	M.7.11.A	Solving Two-Step Equations	Solve two-step equations in the real world, and interpret the result.
7	M.7.11.A	Writing Inequalities	Write inequalities from words, and vice-versa, to represent real-world situations.
7	M.6.10.A	Addition and Subtraction Inequalities	Solve one-step addition and subtraction inequalities, including interpreting the result of solving real-world inequalities.
7	M.6.10.A	Multiplication and Division Inequalities	Solve one-step multiplication and division inequalities, including interpreting the result of solving real-world inequalities.

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7	M.7.11.A	Solving Two-Step Inequalities	Solve two-step inequalities, including interpreting the result of solving real-world inequalities.
7	M.7.5.C	Scale Factor	Use a given scale factor to find an unknown length on a reduction, an enlargement, and an original.
7	M.7.5.C	Determining a Scale Factor	Identify a scale factor from given dimensions, and use it to calculate unknown dimensions.
7	M.7.5.C	Solving Scale Problems Using Proportions	Use proportional relationships to solve problems involving scale drawings.
7	M.7.5.C	Maps	Find actual distances, scale distances, and scale factors in situations involving maps.
7	M.7.9.B	Circumference	Approximate the circumference of a circle given the diameter or radius using 3.14 or 22/7 for pi, including single step, real-world problems; calculate the diameter or radius of a circle given the circumference in terms of pi; solve multi-step real-world problems involving the circumference of a circle.
7	M.7.9.B	Area of a Circle	Determine the area of a circle given the radius and the diameter, including one-step, real-world problems; solve multi-step real-world problems involving the area of a circle.
7	M.7.9.C	Area of Composite Figures	Solve problems involving the area of composite figures that both include and do not include circles.
7	M.7.9.A	Volume of Prisms	Calculate volumes of rectangular prisms and triangular prisms, including real-world problems.
7	M.7.9.A	Volume of Pyramids	Calculate volumes of pyramids, including real-world problems.
7	M.7.9.A	Surface Area and Volume of Triangular Pyramids	Solve problems involving the volume of triangular pyramids; use a net to calculate the lateral and total surface area of a triangular pyramid.
7	M.7.4.D	Budgeting and Being a Smart Consumer	Calculate income tax for earned wages; identify the components of a personal budget, and determine what percentage each category is of the total; compare savings from sales, rebates, and coupons.

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8	M.8.7.B	Surface Area and Volume of Cylinders	Solve mathematical and real-world problems involving the volume and the surface area of cylinders.
8	M.8.4.C M.8.5.I	Tables, Graphs, and Equations	Translate tables and graphs into equations; generate different representations of the same two variable data; recognize that tabular and graphical representations may be partial representations.
8	M.8.5.G	Introduction to Functions	Identify functions from tables, graphs, and equations; determine if a real-world situation describes a functional relationship.
8	M.8.4.C	Constructing Linear Functions	Analyze linear functions to find the rate of change and initial value; interpret the rate of change and initial value of a linear function in terms of the situation it models.
8	M.8.4.C M.8.5.I	Slope-Intercept Form	Analyze a graph to determine slope and y-intercept; graph a linear function using the slope and y-intercept; write a linear equation in slope-intercept form given the slope and y-intercept.
8	M.8.5.D	Drawing Trend Lines	Use a graphing calculator to graph scatterplots and draw the trend line; draw a line of best fit in scatterplots, and identify its purpose.
8	M.8.4.C M.8.5.I M.8.5.D	Using Equations to Represent Trend Lines	Find and interpret the slope of a trend line; create the linear equation of the trend line.
8	M.8.5.D	Making Predictions	Use a calculator to graph a scatterplot and create line of best fit; substitute x and y values into the data to create predictions of a real world scenario; analyze data to determine interpolate and extrapolate predictions.
8	M.8.8.C	Solving with the Distributive Property	Solve one-variable linear equations using the distributive property.
8	M.8.8.C	Solving Equations with Rational Numbers	Solve one-variable linear equations with rational numbers using properties of equality.
8	M.8.8.C	Modeling with Variables on Both Sides	Use algebra tiles to model and solve one-variable equations with variables on both sides with and without using zero pairs.
8	M.8.10.C	Overview of Transformations	Identify transformation and the types of transformation; recognize pre-image and post-image of transformations, and label and name the post-image.

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8	M.8.10.C	Translations	Identify and describe a translation on the coordinate plane; translate figures on the coordinate plane given as an ordered pair and verbal expression; describe a translation using coordinates.
8	M.8.10.C	Writing Algebraic Rules for Translations and Reflections	Use an algebraic representation to explain the effect of translations and a reflection of a two-dimensional shape on a coordinate plane.
8	M.8.3.C	Dilations	Identify and describe a dilation on a coordinate plane; identify the scale factor, given the pre-image and the dilated-image; describe a dilation by its coordinates using the scale factor.
8	M.8.3.C	Dilations in the Coordinate Plane	Use the scale factor to graph dilations on the coordinate plane; describe the dilation of a figure on the coordinate plane by the scale factor.
8	M.8.3.C	Writing Algebraic Rules for Rotations and Dilations	Use an algebraic representation to explain the effect of a rotation and a dilation of a two-dimensional shape on a coordinate plane.
8	M.8.7.C	Exploring the Pythagorean Theorem	Identify the hypotenuse in right triangles presented with different orientations.
8	M.8.2.D M.8.7.C	Estimating and Comparing Square Roots	Estimate square roots without using technology; plot the estimated values of square roots on a number line; make comparative statements involving square roots.
8	M.8.7.C	Finding the Hypotenuse in Right Triangles	Given lengths of any two legs of a right triangle, find the length of the hypotenuse, including real-world problems.
8	M.8.7.C	Unknown Leg Lengths in Right Triangles	Given the length of one leg and the hypotenuse of a right triangle, find the length of the other leg, including real-world problems; given the length of the hypotenuse of an isosceles right triangle, find the length of the legs, including real-world problems.
8	M.8.7.C	Converse to the Pythagorean Theorem	Determine if a triangle is a right triangle by using the converse of the Pythagorean theorem.

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8	M.8.2.D	Exploring Real Numbers	Differentiate between rational and irrational numbers; express repeating decimals with bar notation.
8	M.8.7.A	Introduction to the Volume of a Cylinder	Calculate the volume of a cylinder given the formula.
8	M.8.7.A	Applications with the Volume of a Cylinder	Solve real-life problems using volume of cylinders; find the area of the base of a cylinder given its volume and height.
8	M.8.7.A	Introduction to the Volume of a Cone	Calculate the volume of a cone given the formula.
8	M.8.7.A	Applications with the Volume of a Cone	Solve real-life problems using volume of a cone; find the area of the base of a cone given its volume and height.
8	M.8.7.A	Introduction to the Volume of a Sphere	Calculate the volume of a sphere given the formula.
8	M.8.7.A	Spherical and Cubic Volume Applications	Apply volume formulas, including those that evaluate perfect cubes, to find unknown measurements; solve a real-world problem utilizing the formula for volume of a sphere.
8	M.8.7.B	Connecting Lateral and Total Surface Area	Determine the base area and lateral area of a prism and a cylinder; calculate the surface area of a prism and a cylinder.
9	M.A.2.A M.A.2.C	Writing and Graphing Equations in Two Variables	Construct a table of values and/or a graph for a two-variable linear equation that models a situation; identify solutions that are or are not viable based on a given context; interpret graphs and rates by examining the quantities represented by each axis; write a two-variable linear equation to model a quantitative relationship, describing the constraints of the model based on the context.
9	M.A.3.B	Introduction to Linear Functions	Calculate the rate of change of a function; determine the initial value of a function; determine if a relationship is linear by analyzing the rate of change.
9	M.A.3.B	Slope of a Line	Determine the slope of a line from a graph, a table of values, and ordered pairs; identify if the slope of a linear relationship is zero, positive, negative, or undefined; interpret slope in the context of real-world scenarios.

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Placement Grade	TEKS	Lesson Title	Lesson Description
9	M.A.2.A M.A.2.C M.A.3.C	Slope-Intercept Form of a Line	Identify the slope and/or y-intercept of a linear function given in slope-intercept form; graph a linear function given in slope-intercept form; write a linear function, in slope-intercept form, from a graph and from a verbal description or scenario.
9	M.A.2.C M.A.3.C	Point-Slope Form of a Line	Identify the slope and/or y-intercept of a linear function given in point-slope form, and graph the linear function; write the equation of a line given its slope and a point on the line in point-slope form, and express the relationship as a function.
9	M.A.2.C M.A.3.C	Standard Form of a Line	Write the equation of a line in standard form given a graph and a scenario; identify the slope and/or y-intercept of a linear function given in standard form, and graph the linear function.
9	M.A.5.A	Solving Mixture Problems	Use a table to organize information given in mixture problems; write and solve one-variable linear equations to model and solve mixture problems.
9	M.A.5.A	Solving Rate Problems	Use a table to organize information given in time-distance-rate and work problems; write and solve one-variable linear equations to model and solve problems of these types.
9	M.A.2.I	Modeling with Systems of Linear Equations	Create a system of linear equations to model a problem; interpret the solution of a system of linear equations in a modeling context.
9	M.A.3.D	Graphing Two-Variable Linear Inequalities	Relate the graph of a two-variable linear inequality to its algebraic representation.
9	M.A.3.D	Modeling with Two-Variable Linear Inequalities	Create a two-variable linear inequality to model a problem; interpret the solutions of a two-variable linear inequality in a modeling context.
9	M.A.11.B	Laws of Exponents	Apply the properties of whole-number exponents to generate equivalent expressions.
9	M.A.9.C M.A.9.D	Exponential Growth Functions	Graph an exponential growth function, and state its domain and range; identify an exponential growth function given tables, graphs, and function rules, determining the rate of change; write an exponential growth function to model a real-world problem, pointing out constraints in the modeling context.

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Placement Grade	TEKS	Lesson Title	Lesson Description
9	M.A.9.C M.A.9.D	Exponential Decay Functions	Graph an exponential decay function, and state its domain and range; identify an exponential decay function given tables, graphs, and function rules, determining the rate of change; write an exponential decay function to model a real-world problem, pointing out constraints in the modeling context.
9	M.A.9.C M.A.9.D	Vertical Stretches and Shrinks of Exponential Functions	Determine the parameters and/or create an equation for a vertically dilated exponential growth or decay function given a table, equation, or scenario; match a graph, table, or scenario to an equation of a function of either type or vice versa.
9	M.A.9.D	Reflections of Exponential Functions	Graph reflections of exponential functions, and determine the domain and/or range of exponential functions reflected across an axis.
9	M.A.9.D	Translations of Exponential Functions	Graph and describe translations of exponential functions; analyze their key aspects.
9	M.A.9.D	Geometric Sequences	Write recursive and explicit rules for geometric sequences using function notation; graph and analyze geometric sequences as a special case of exponential functions with the domain restricted to natural numbers.
9	M.A.10.E	Factoring Trinomials: a = 1	Determine if a trinomial with a leading coefficient of 1 and a positive constant is factorable, and, if so, write it in factored form; relate the factorization to a geometric model.
9	M.A.10.E	Factoring Trinomials: a = 1 (Continued)	Determine if a trinomial with a leading coefficient of 1 and a negative constant is factorable, and, if so, write it in factored form; relate the factorization to a geometric model.
9	M.A.10.E	Factoring Trinomials: a > 1	Determine if a trinomial with a leading coefficient greater than 1 is factorable, and, if so, write it in factored form; relate the factorization to a geometric model.
9	M.A.6.A	Introduction to Quadratic Functions	Identify a quadratic function and values of the coefficients and constant from the standard form; calculate the rate of change of a quadratic function over an interval of its domain, and compare it to linear and exponential functions; evaluate a quadratic function using tables, graphs, and equations.

Placement Grade	TEKS	Lesson Title	Lesson Description
9	M.A.6.A M.A.7.A	Quadratic Functions: Standard Form	Graph a quadratic function given in standard form, and identify key features from the graph; identify key features from the equation of a quadratic function given in standard form.
9	M.A.6.A M.A.7.A	Quadratic Functions: Vertex Form	Graph a quadratic function given in vertex form; identify key features from the graph of an equation of a quadratic function given in vertex form; identify key features from the equation of a quadratic function given in vertex form.
9	M.A.7.C	Completing the Square	Write quadratic functions given in standard form and with $a = 1$ into vertex form by completing the square; relate the geometric model of completing the square to the algebraic process.
9	M.A.7.C	Completing the Square (Continued)	Write quadratic functions given in standard form into vertex form by completing the square; relate the parameters of a quadratic function in vertex form to transformations of the graph $y = x$ squared.
9	M.A.8.A	Solving Quadratic Equations: Zero Product Property	Solve problems by factoring quadratic equations given in standard form; write quadratic equations given rational solutions.
9	M.A.8.A	Solving Quadratic Equations: Factoring	Solve problems by rewriting quadratic equations in standard form and factoring, pointing out the solutions that are viable or not viable in a modeling context; write a quadratic equation that models a scenario.
9	M.A.8.A	Solving Quadratic Equations: Square Root Property	Use the square root property to solve quadratic equations.
9	M.A.8.A	Solving Quadratic Equations: Completing the Square	Solve a quadratic equation whose leading coefficient is 1 by completing the square.
9	M.A.8.A	Solving Quadratic Equations: Completing the Square (Continued)	Solve a quadratic equation whose leading coefficient is greater than 1 by completing the square.

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Placement Grade	TEKS	Lesson Title	Lesson Description
9	M.A.8.A	Introduction to the Quadratic Formula	Determine the values of a, b, and c from a given quadratic equation in standard form; recognize an expression that uses the quadratic formula to find the solutions of a quadratic equation; determine the value of the discriminant of a quadratic equation.
9	M.A.8.A	Solving Quadratic Equations: Quadratic Formula	Solve a quadratic equation using the quadratic formula; determine the number of real zeros of a quadratic function by finding the values of a, b, and c and then calculating the discriminant.
9	M.A.3.B	Line of Best Fit	Determine if a data set shows a correlation and, if so, the type of correlation; use technology to determine the line of best fit for a data set, and interpret the parameters of the model in context; use a line of best fit to make a prediction.
10	M.A.11.B	Rational Exponents	Evaluate numeric expressions and simplify algebraic expressions using properties of rational exponents.
10	M.G.4.C	Euclidean Geometry	Identify and name undefined terms of point, line, plane, and distance along a line; analyze descriptions and diagrams that illustrate basic postulates about points, lines, and planes.
10	M.G.4.C	Defining Terms	Identify and name a ray and/or a line segment; identify and name an angle, an arc, and/or a circle; identify and name a pair of parallel lines and/or a pair of perpendicular lines.
10	M.G.4.C	Measuring Length and Angles	Apply the protractor postulate and angle addition postulate to calculate angle measures; apply the ruler postulate and segment addition postulate to calculate the lengths of line segments; identify a midpoint of a line segment and a bisector of an angle.
10	M.G.4.C M.G.5.A	Introduction to Proof	Identify proof formats, essential parts of a proof, and assumptions that can be made from a given drawing.
10	M.G.5.A M.G.6.A	Linear Pairs and Vertical Angles	Calculate angle measures by using definitions and theorems about linear pairs and vertical angles; complete the steps to prove statements using linear pairs and vertical angles; identify linear pairs and vertical angles from given diagrams.
10	M.G.5.A M.G.6.A	Complementary and Supplementary Angles	Complete the steps to prove statements using complementary angles and supplementary angles; identify these angles from given diagrams, and solve problems involving their measures.

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10	M.G.5.A M.G.3.B	Compositions	Determine the image of a figure after a given composition of transformations; determine the rule that describes a given composition of transformations.
10	M.G.5.A M.G.3.B	Symmetry	Identify rotational symmetry and its order in geometric figures; identify reflectional symmetry in geometric figures and the number of lines of symmetry.
10	M.G.5.A M.G.6.A	Parallel and Perpendicular Lines	Solve problems involving the distance from a point on the perpendicular bisector to both endpoints of the line segment; identify parallel, perpendicular, and skew lines from three-dimensional figures.
10	M.G.5.A M.G.6.A	Lines Cut by a Transversal	Solve for angle measures when parallel lines are cut by a transversal, and complete the steps to prove angle relationships.
10	M.G.5.A M.G.6.A	Proving Lines Parallel	Apply theorems to determine if lines are parallel; prove lines are parallel given angle relationships.
10	M.G.2.B M.G.2.C	Slopes of Parallel and Perpendicular Lines	Complete the steps to prove the slope criteria for parallel and perpendicular lines using coordinate geometry; determine if two lines are parallel or perpendicular; use slope criteria to find additional points on a parallel or perpendicular line.
10	M.G.2.C	Writing Linear Equations	Write the equation of a line perpendicular to a given line or segment that goes through a particular point; write the equation of a line parallel to a given line that goes through a particular point.
10	M.G.5.A	Triangle Angle Theorems	Calculate the measures of interior and exterior angles of a triangle, and complete the steps to prove that the sum of the measures of the interior angles is 180 degrees.
10	M.G.5.A	Triangles and Their Side Lengths	Construct or justify the construction of isosceles and equilateral triangles; determine if three given segments will satisfy the triangle inequality; determine the length or parameters for a third side of a triangle given the other two sides.
10	M.G.5.A	Isosceles Triangles	Solve for unknown measures of isosceles triangles; identify characteristics of an isosceles triangle; complete the steps to prove the isosceles triangle theorem and its converse.
10	M.G.5.A M.G.6.B	Congruent Figures	Determine if figures are congruent, and, if so, identify their corresponding parts; determine unknown measures of congruent figures.
10	M.G.5.A M.G.6.B	Triangle Congruence: SAS	Using SAS, complete the steps to prove triangles are congruent, and identify the sides and angle that can be used to prove triangle congruency.

Placement Grade	TEKS	Lesson Title	Lesson Description
10	M.G.5.A M.G.6.B	Triangle Congruence: ASA and AAS	Using ASA or AAS, complete the steps to prove triangles are congruen,t and identify the side and angles that can be used to prove triangle congruency.
10	M.G.5.A M.G.6.B	Triangle Congruence: SSS and HL	Using SSS or HL, complete the steps to prove triangles are congruent, and identify the side and angles that can be used to prove triangle congruency.
10	M.G.3.B	Dilations	Calculate and interpret the scale factor for dilations of figures; determine the unknown measures of an image or pre-image of a dilated figure given the scale factor; verify experimentally the properties of dilations given a center and a scale factor.
10	M.G.7.B	Similar Figures	Determine if two polygons are similar using dilations; find the coordinates of the vertices of an image or pre-image of a dilated polygon given the scale factor; verify the properties of dilations, including the scale factor and slopes of corresponding line segments.
10	M.G.7.B	Triangle Similarity: AA	Complete the steps to prove triangles are similar using the AA similarity theorem; identify the composition of similarity transformations in a mapping of two triangles.
10	M.G.9.B	Special Right Triangles	Determine unknown measures of 30-60-90 triangles and 45-45-90 triangles; solve real-world problems involving special right triangles.
10	M.G.9.A	Trigonometric Ratios	Given an acute angle of a right triangle, label the hypotenuse, opposite, and adjacent sides, and write ratios for sine, cosine, and tangent.
10	M.G.9.A M.G.9.B	Solving for Side Lengths of Right Triangles	Apply trigonometric ratios to solve real-world problems and solve for unknown side lengths of right triangles.
10	M.G.9.A	Solving for Angle Measures of Right Triangles	Apply inverse trigonometric functions to solve real-world problems and to solve for unknown angles of right triangles.
10	M.G.2.B	Figures in the Coordinate Plane	Apply coordinate algebra proofs to triangles and quadrilaterals; calculate the perimeter of a triangle or quadrilateral given the coordinates of the vertices.
10	M.G.11.B	Area of a Circle and a Sector	Solve problems involving area of a sector with central angles measured in degrees and in radians.

Placement Grade	TEKS	Lesson Title	Lesson Description
10	M.G.11.B	Area of Triangles and Parallelograms	Solve problems involving areas of triangles and parallelograms.
10	M.G.11.B	Perimeter and Area of Rhombi, Trapezoids, and Kites	Calculate the perimeter of a rhombus, trapezoid, or kite given the coordinates of the vertices; solve problems involving the area of these figures given the coordinates of the vertices.
10	M.G.11.B	Area of Regular Polygons	Calculate the area of a regular polygon and the length of its apothem; solve real-world problems involving the area of regular polygons.
10	M.G.11.B	Area of Composite Figures	Calculate the area of composite 2-D figures, including real-world applications; decompose composite 2-D figures; write an expression that represents the area of a composite 2-D figure.
10	M.G.11.D	Volume of Prisms	Calculate the volume or an unknown measure of an oblique prism based on a mathematical or real-world model; write expressions to represent the volumes or unknown measures of oblique prisms.
10	M.G.11.D	Volume of Pyramids	Calculate the volume or an unknown measure of a right hexagonal pyramid and an oblique pyramid based on a mathematical or real-world model; write expressions to represent the volumes or unknown measures of right hexagonal pyramids and oblique pyramids.
10	M.G.11.D	Volume of Cylinders, Cones, and Spheres	Solve mathematical and real-world problems involving the volume of oblique cones and oblique cylinders; write expressions to represent the volumes or unknown measures of cylinders and cones.
10	M.G.11.D	Cavalieri's Principle and Volume of Composite Figures	Calculate the volumes of composite figures, including those that model real-world objects; write an expression to represent the volume of a composite figure.
10	M.G.10.B	Changing Dimensions in 3-D Figures	Identify similar solids, and determine their scale factors; determine and describe how proportional or nonproportional changes in linear dimensions of a shape affect other measurements such as perimeter, area, surface area, or volume; solve problems about length, area, and volume measures using scale factors.
10	M.G.11.C	Surface Area	Solve mathematical and real-world problems about lateral and surface areas of composite figures.

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10	M.G.13.C	Independent and Mutually Exclusive Events	Calculate probabilities using the addition rule and the multiplication rule of independent events; identify mutually exclusive and independent events.
10	M.G.13.C	Conditional Probability	Calculate conditional probabilities using formulas and Venn diagrams; calculate probabilities of compound events; use calculations to determine if two events are independent.
10	M.G.13.C	Probability and Two-Way Tables	Compute conditional probabilities from data displayed in a two-way table; construct a two-way table, and use it to determine if two events are independent.
11, 12	M.2A.7.A	Complex Numbers	Represent square roots of negative numbers as multiples of i and complex numbers in the form a + bi or in the complex plane; simplify powers of i using their cyclic nature.
11, 12	M.2A.7.A	Operations with Complex Numbers	Perform addition, subtraction, and multiplication of complex numbers.
11, 12	M.2A.7.E	Factoring Polynomials Completely	Analyze polynomial expressions to factor them completely.
11, 12	M.P.5.A	Summation Notation	Evaluate a summation by expanding it; convert between series in summation notation and expanded form.
11, 12	M.P.5.D	Summation Properties and Rules	Use summation properties and rules to evaluate sums.
11, 12	M.P.5.E	Finite Geometric Series	Solve problems using the formula for the sum of a finite geometric series.
11, 12	M.2A.7.E M.2A.7.F	Synthetic Division and the Remainder Theorem	Apply the remainder theorem; use synthetic division to divide a polynomial by a linear factor.
11, 12	M.2A.7.E M.2A.7.F	Division of Polynomials	Use long division to find quotients of polynomials; use inverse operations to check the result of polynomial division.
11, 12	M.P.5.F	The Binomial Theorem	Use the binomial theorem to expand binomials and to find a specific term in an expansion.

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Placement Grade	TEKS	Lesson Title	Lesson Description
11, 12	M.2A.7.E	Rational Roots Theorem	Determine the roots of and factor a polynomial function; use the rational root theorem to determine possible roots of a polynomial function.
11, 12	M.2A.7.E	Fundamental Theorem of Algebra	Use the complex conjugate theorem to factor and solve polynomial equations, and apply the fundamental theorem of algebra to determine the number of roots of a polynomial function.
11, 12	M.2A.7.E	Writing Poly Functions from Complex Roots	Write polynomial functions from complex roots.
11, 12	M.2A.6.I	Simplifying Rational Expressions	Simplify rational expressions using factoring techniques, and determine their excluded values.
11, 12	M.2A.6.I	Simplifying Rational Expressions by Factoring	Simplify rational expressions using factoring techniques, and determine their excluded values.
11, 12	M.2A.6.I	Multiplying and Dividing Rational Expressions	Perform multiplication and division of rational expressions.
11, 12	M.2A.6.I	Adding and Subtracting Rational Expressions	Add and subtract rational expressions; simplify complex rational expressions containing sums or differences.
11, 12	M.2A.6.I	Rational Equations	Solve rational equations, and determine extraneous solutions; use the equations to model and solve real-world problems.
11, 12	M.2A.4.G	Radical Equations and Extraneous Roots	Model and solve mathematical and real-world problems using radical equations, and determine extraneous roots.
11, 12	M.2A.4.G	Solving Equations Containing Two Radicals	Solve equations containing two radicals, and determine extraneous solutions
11, 12	M.2A.2.A	Graphs of Rational Functions	Use algebraic techniques to determine key features of a rational function; graph a rational function, and analyze its key features.

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11, 12	M.P.2.G	Graphs of Polynomial Functions	Describe the key features of a polynomial function, and identify these features from a given graph.
11, 12	M.P.2.G	Graphing Polynomial Functions	Graph polynomial functions using key features.
11, 12	M.2A.2.A M.2A.4.C	Functions and Transformations	Describe the effect of one or more transformations on the graph of a function; write the equation of a transformed function given its graph; recognize even and odd functions.
11, 12	M.P.4.B	Angles and Trigonometric Functions	Convert between radian and degree measure; evaluate trigonometric functions, and use them to solve problems; use the unit circle to explain key features of the sine and cosine functions.
11, 12	M.P.4.G	Law of Sines	Apply the law of sines to solve mathematical and real-world problems.
11, 12	M.P.4.H	Law of Cosines	Apply the law of cosines to solve mathematical and real-world problems.
11, 12	M.P.4.F	Area and Perimeter of Triangles	Solve area and perimeter problems using $A = 1/2absinC$ and Heron's formula; derive the area formula $A = 1/2absinC$.
11, 12	M.2A.2A M.2A.4B	Parabolas	Determine the equation of a parabola given the focus and directrix.
11, 12	M.2A.7.H M.2A.5.D	Solving Exponential Equations by Rewriting the Base	Solve exponential equations by rewriting bases.
11, 12	M.P.5.H	Evaluating Logarithmic Expressions	Evaluate and solve logarithmic expressions by converting between logarithmic and exponential forms.
11, 12	M.P.5.G	Properties of Logarithms	Expand, simplify, and evaluate logarithmic expressions using properties of logarithms.
11, 12	M.2A.5.D	Solving Equations Using Properites of Logarithms	Apply properties of logarithms to solve logarithmic equations; determine extraneous solutions of the equations.

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11, 12	M.P.2.F	Base e	Analyze exponential and logarithmic functions in base e to determine key features of the graph; apply properties of logarithms and exponents to solve exponential and logarithmic equations having base e; determine the domain and range of exponential and logarithmic functions in base e.
11, 12	M.2A.5.D	Solving Exponential and Logarithmic Equations	Solve exponential and logarithmic equations using inverses, properties, and algorithms.