

8th Grade Math Curriculum Map

Sadlier–Foundations of Algebra

Month	Lessons/Objectives	Applicable Standards	Activities/Assessments
<p>August- Early September</p>	<p>Ch. 1 Rational Numbers 1-1 The Rational Numbers Obj. To define the set of rational numbers • To identify subsets of rational numbers • To write rational numbers in equivalent forms 1-2 The Rational Numbers on a Number Line Obj. To graph rational numbers on a number line • To identify additive inverses • To simplify rational numbers in absolute value 1-3 GCF Obj. To find the GCF of two or more numbers • To simplify fractions using the GCF • To write equivalent fractions • To write decimals in fraction form 1-4 Multiples: LCM and LCD Obj. To find the LCM of a set of numbers • To find the LCD of a set of fractions • To rename fractions with unlike denominators 1-5 Compare & Order of Rational Numbers Obj. To compare and order rational numbers 1-6 Estimate with Rational Numbers Obj. To round a rational number to the nearest integer or one half • To estimate by rounding, front-end estimation, or using compatible numbers • To compare an estimate with the actual result using a calculator 1-7 Add Rational Numbers Obj. To model addition of rational numbers on a number line • To add rational numbers as decimals • To add rational numbers as fractions or mixed numbers 1-8 Subtract Rational Numbers Obj. 1-9 Multiply Rational Numbers 1-10 Divide Rational Numbers</p>	<p>8.NS.1, 8.EE.1, 8.EE.7b</p>	<p>SB Practice Exercises p. 2-27 PB Practice Exercises p. 1-26 Lessons 1-5 Practice Activities Check Your Progress I (Lessons 1-5) Lessons 6-10 Practice Activities Check Your Progress II (Lessons 6-10) Lessons 11-14 Practice Activities Check Your Progress III (Lessons 11-14)</p>

	<p>1-11 Properties of Rational Numbers Obj. To explore the Density Property of Rational Numbers and the Multiplication Property of $!1$ • To find rational numbers between two given rational numbers</p> <p>1-12 Integral Exponents Obj. To write repeated multiplication in exponential form • To apply the multiplication and division laws of exponents • To understand zero and negative exponents</p> <p>1-13 Powers & Exponents Obj. To raise a power, product, or quotient to a power • To apply the power laws</p> <p>1-14 Order of Operations with Rational Numbers Obj. To simplify numerical expressions with rational numbers using the order of operations</p> <p>1-15 PSS: Make a Drawing Obj. To solve problems using the strategy Make a Drawing</p>		
September	<p>Ch. 3 Expressions & Equations</p> <p>3-1 Mathematical Expressions Obj. To classify mathematical expressions as numerical or algebraic • To write word phrases as mathematical expressions, and vice versa</p> <p>3-2 Simplify and Evaluate Algebraic Expressions Obj. To identify the coefficients of a term • To simplify algebraic expressions by combining like terms • To evaluate algebraic expressions for given values of the variable(s)</p> <p>3-3 Equations Obj. To write word sentences as equations • To determine whether a given number is a solution to a given equation • To identify the Properties of Equality • To determine whether an equation is a conditional equation or an identity</p> <p>3-4 One-Step Addition & Subtraction Equations Obj. To solve equations by using the Addition and Subtraction Properties of Equality</p> <p>3-5 One-Step Multiplication & Division Equations Obj. To solve equations by using the Multiplication and Division Properties of Equality</p> <p>3-7 Two-Step Equations Obj. To solve two-step equations</p>	8.EE.7b, 8.EE.8b, 8.EE.8c,	<p>SB Practice Activities p 64-91 PB Practice Activities p 71-98 Lessons 1-5 Practice Activities Check Your Progress I (Lessons 1-5) Lessons 6-10 Practice Activities Check Your Progress II (Lessons 6-10) Lessons 11-13 Practice Activities (Lessons 11-13) Check Your Progress III (Lessons 11-13)</p>

	<p>3-8 Multi-Step Equations with Grouping Symbols Obj. : To solve multi step equations with grouping symbols</p> <p>3-9 Multi-Step Equations with Variables on Both Sides Obj. To solve multi step equations with variables on both sides</p> <p>3-10 Multi-Step Equations: Fractions & Decimals Obj. To solve multi step equations involving decimals and fractions • To solve equations with variables in denominators</p> <p>3-12 Absolute Value Equations Obj. To solve one- and two-step equations involving absolute value</p> <p>3-13 Literal Equations Obj. To solve a literal equation for a specified variable • To transform a formula into an equivalent equation</p> <p>3-14 PSS: Guess & Test Obj. To solve problems using the strategy Guess and Test</p>		
October	<p>Ch. 5 Polynomials & Factoring</p> <p>5-1 Polynomials Obj. To define a polynomial • To classify a polynomial by the number of its terms • To simplify polynomials</p> <p>5-2 Degree of a Polynomial Obj. To identify the degrees of polynomials • To write polynomials in standard form • To evaluate a polynomial using a calculator</p> <p>5-4 Add Polynomials Obj. To model the addition of polynomials • To add polynomials algebraically</p> <p>5-5 Subtract Polynomials Obj. To model the subtraction of polynomials • To subtract polynomials algebraically</p> <p>5-6 Multiply by a Monomials Obj. To multiply two monomials • To multiply a polynomial by a monomial</p> <p>5-7 Multiply Binomials Obj. To multiply two binomials using the tabular, vertical, and distributive methods • To multiply two binomials using the FOIL method</p> <p>5-8 More Binomials Special Cases</p>	8.EE.1,	<p>SB Practice Exercises p.124-151</p> <p>PB Practice Exercises p. 139-166</p> <p>Lessons 1-5 Practice Activities</p> <p>Check Your Progress I (Lessons 1-5)</p> <p>Lessons 6-10 Practice Activities</p> <p>Check Your Progress II (Lessons 6-10)</p> <p>Ch. 5 Test</p>

	<p>Obj. To square a binomial • To multiply binomials of the form $(ax + b)(ax + b)$ • To find products using mental math</p> <p>5-9 Divide by Monomials Obj. To divide monomials • To divide a polynomial by a monomial</p> <p>5-10 Factoring Using GCF Obj. To factor a polynomial using the GCF of its terms</p> <p>5-11 Factoring Trinomials $x^2 + bx + c$ Obj. To factor quadratic trinomials of the form $x^2 + bx + c$</p> <p>5-12 Factoring Special Products Obj. To identify and factor perfect square trinomials • To identify and factor binomials that are differences of two squares</p> <p>5-13 Factoring Trinomials $ax^2 + bx + c$ Obj. To factor quadratic trinomials of the form $ax^2 + bx + c$, when $a \neq 1$, $b \neq 0$, and $c \neq 0$ • To factor a quadratic trinomial completely</p> <p>5-14 PSS: Find a Pattern Obj. To solve problems using the strategy Find a Pattern</p>		
November & December	<p>Ch. 6 Linear Functions & Inequalities</p> <p>6-1 Relations & Functions Obj. To identify relations and functions • To represent relations with tables, mapping diagrams, graphs, or equations • To identify the domain and the range of a relation • To evaluate a function using function notation</p> <p>6-2 Graphs as Functions Obj. To write a function rule • To use a table to graph functions • To find solutions of a function using a graph</p> <p>6-3 Scatter Plots Obj. To make and read scatter plots • To identify and draw lines of best fit • To interpret data sets as having positive, negative, or no correlation • To recognize trends in correlated data</p> <p>6-4 Slope of a Line Obj. To find the slope of a line given two points on the line • To interpret slope of lines</p> <p>6-5 The x-intercepts and y-intercepts of a line Obj. To find the x- and y-intercepts of a line</p>	8.F.2, 8.SP.1, 8.SP.2, 8.SSP.1, 8.F.4, FP: A, 8.EE.6, 8.F.3, 8.EE.5, 8.F.1, 8.EE.8a, 8.EE.8b, 8.EE.8c	<p>SB Practice Exercises p.156-182</p> <p>PB Practice Exercises p. 175-200</p> <p>Lessons 1-5 Practice Activities Check Your Progress I (Lessons 1-5)</p> <p>Lessons 6-9 Practice Activities Check Your Progress II (Lessons 6-9)</p> <p>Lessons 10-13 Practice Activities Check Your Progress III (Lessons 10-13)</p> <p>Ch. 6 Test</p>

	<p>given its equation • To graph an equation using x- and y-intercepts • To determine the x- and Y-intercepts of a line from a graph</p> <p>6-6 Linear Functions: Standard Form and Slope-Intercept Form Obj. To identify the slope and the y-intercept from an equation of a line To graph an equation in slope-intercept form • To write an equation of a line from a graph</p> <p>6-10 Solve Systems of Equations by Graphing Obj. To solve for a system of equations by graphing</p> <p>6-11 Solve Systems of Equations using Substitution and Elimination Obj. To solve for a system of equations using substitution or elimination</p>		
January	<p>Ch. 2 Real Numbers</p> <p>2-1 Scientific Notation Obj. To write very large or very small numbers in standard form, in scientific notation, and vice versa • To compare and order numbers in scientific notation</p> <p>2-2 Multiply & Divide in Scientific Notation Obj. To multiply and divide numbers in scientific notation</p> <p>2-3 Perfect Squares & Square Roots Obj. To identify perfect squares • To find the two square roots of a number • To simplify expressions involving squares and square roots</p> <p>2-4 Estimate Square Roots Obj. To estimate the decimal value of square roots that are non-perfect squares • To locate square roots of nonperfect squares on a number line • To simplify expressions involving square roots by using a calculator</p> <p>2-5 Irrational Numbers Obj. To classify numbers as rational or irrational • To find a rational approximate value of an irrational number to a given place</p> <p>2-6 Square Roots & Irrational Numbers Obj. To simplify irrational square roots</p> <p>2-7 The Real Number System Obj. To classify real numbers • To locate real numbers on a number line • To find the distance between two points on a line • To find the midpoint between two numbers on a number line</p>	<p>8.EE.3, 8.EE.4, 8.NS.1, 8.NS.2, 8.EE.2, 8.NS.1, 8.G.6, 8.G.7, 8.SP.4,</p>	<p>SB Practice Exercises p.36-59 PB Practice Exercises p. 39-62</p> <p>Lessons 1-4 Practice Activities Check Your Progress I (Lessons 1-4)</p> <p>Lessons 5-8 Practice Activities Check Your Progress II (Lessons 5-8)</p> <p>Lessons 9-10 Practice Activities Check Your Progress III (Lessons 9-10)</p> <p>Ch. 2 Test</p>

	<p>2-8 Properties of Real Numbers Obj. To identify and apply the properties of real numbers in addition and multiplication • To apply the Distributive Property for Multiplication over Subtraction • To determine whether a given set of numbers is closed under a given operation</p> <p>2-9 Pythagorean Theorem Obj. To use the Pythagorean Theorem to find a missing side of a right triangle • To determine whether a given triangle is a right triangle</p> <p>2-10 Special Right Triangles Obj. To find unknown lengths in 45°-45°-90° and 30°-60°-90° triangles</p> <p>2-11 Technology: Evaluate Powers and Roots Obj. To use a graphing calculator to evaluate expressions with powers and square roots</p> <p>2-12 PSS: Organize Data Obj. To solve problems using the strategy Organize Data</p>		
Sadlier – Algebra I			
February & March	<p>Ch. 9 Radical Expressions & Equations</p> <p>9-1 Simplify Radical Expressions Obj. To write square-root expressions in simplest radical form</p> <p>9-2 Add & Subtract Radical Expressions Obj. To add and subtract expressions with like radicands • To add and subtract radical expressions that first require simplification</p> <p>9-3 Multiply & Divide Radical Expressions Obj. To multiply radical expressions and express results in simplest radical form • To multiply with sums and differences of radicals • To divide radical expressions and express results with rational denominators</p> <p>9-4 Solve Radical Equations Obj. To solve radical equations</p> <p>9-5 The Pythagorean Theorem Obj. To apply the Pythagorean Theorem</p> <p>9-6 Distance of the Coordinate Plane Obj. To find the lengths of vertical and horizontal segments • To find the lengths of oblique segments by using the Distance Formula</p>	A.CED.3, N.RN.1, N.RN.2, A.SSE.1b, F.BF.1a, F.LE.2	<p>SB Practice Activities p. 226-239</p> <p>PB Practice Activities p. 221-232</p> <p>Lessons 1-2 Practice Activities Check Your Progress I (Lessons 1-2)</p> <p>Lessons 3-4 Practice Activities Check Your Progress II (Lessons 3-4)</p> <p>Lessons 5-6 Practice Activities Check Your Progress III</p> <p>Ch. 9 Test</p>

<p>April & May</p>	<p>Ch. 10 Quadratic Functions & Equations 10-1 Identify Quadratic Functions & Their Graphs Obj. To determine the vertex, axis of symmetry, and intercepts of a parabola • To find the maximum or minimum value and the domain and range of a quadratic function 10-2 Graph Quadratic Functions: Parabolas Obj. To find the coordinates of the vertex of a parabola and the equation of its axis of symmetry, given its function rule • To graph a quadratic function 10-3 Solve Quadratic Equations by Factoring Obj. To solve quadratic equations by factoring • To relate a quadratic equation with a quadratic function • To solve radical equations leading to quadratic equations 10-4 Solve Verbal Problems Involving Quadratic Equations Obj. To solve verbal problems involving quadratic equations • To write quadratic equations, given their roots 10-5 Solving Quadratic Equations by Completing the Square Obj. To model the process of completing the square • To solve quadratic equations by completing the square 10-6 The Quadratic Formula and the Discriminant Obj. To determine the number and nature of solutions for a quadratic equation by using the discriminant 10-7 Solve Quadratic Equations with the Quadratic Formula Obj. To determine the number and nature of solutions for a quadratic equation by using the discriminant</p>	<p>A.CED.2, A.REI.10, F.IF.4, F.IF.6, F.IF.7a, F.IF.8a, A.SSE.3a, A.CED.1, A.CED.2, A.REI.4b, F.IF.8a, N.Q.2,</p>	<p>SB Practice Exercises p. 246-275 PB Practice Exercises p. 243-268 Lessons 1-3 Practice Activities Check Your Progress I (Lessons 1-3) Lessons 4-5 Practice Activities Check Your Progress II (Lessons 4-5) Lessons 6-8 Practice Activities Check Your Progress III (Lessons 6-8) Ch. 10 Test</p>
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