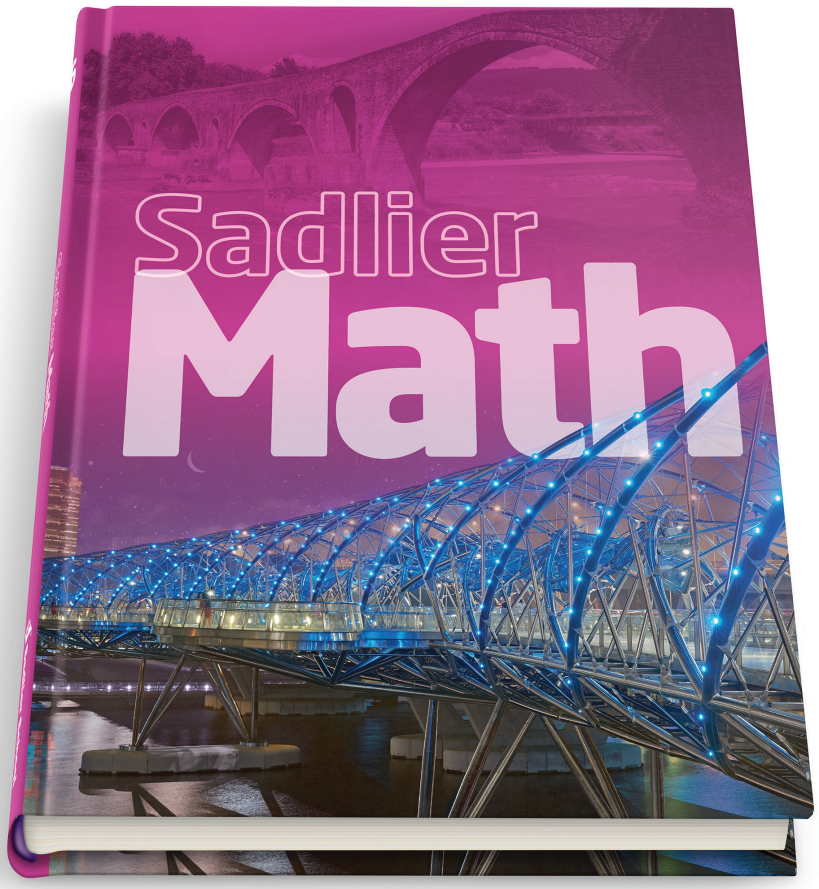
Sadlier Math™

Correlation to the Minnesota Academic Standards in Mathematics

Grade 6



Learn more at www.SadlierSchool.com/SadlierMath

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Read, write, represent and compare positive rational numbers expressed as fractions, decimals, percents and ratios; write positive integers as products of factors; use these representations in real-world and mathematical situations.	
6.1.1.1 Locate positive rational numbers on a number line and plot pairs of positive rational numbers on a coordinate grid.	**Chapter 9: 9-7** • 9-7 Plot Points in the Coordinate Plane—pp. 210–211 (Use signs of coordinates to locate and plot points in the coordinate plane; TE Develop Concepts: Describing Movement in Space)
6.1.1.2 Compare positive rational numbers represented in various forms. Use the symbols $<$, $=$ and $>$. *For example:* $\frac{1}{2} > 0.36$.	**Chapter 9: 9-3 & 9-6** • 9-3 Compare and Order Integers—pp. 200–201 (Use a number line to compare and order integers and understand absolute value; TE Develop Concepts: Compare and Order Whole Numbers) • 9-6 Compare and Order Rational Numbers—pp. 206–207 (Use a number line to compare and order rational numbers; TE Develop Concepts: Compare and Order Integers)
6.1.1.3 Understand that percent represents parts out of 100 and ratios to 100. *For example:* 75% corresponds to the ratio 75 to 100, which is equivalent to the ratio 3 to 4.	**Chapter 11: 11-1** • 11-1 Percent—pp. 254–255 (Use models, fractions, and decimals to express percents; TE Develop Concepts: Translating Between Fractions and Decimals)
6.1.1.4 Determine equivalences among fractions, decimals and percents; select among these representations to solve problems. *For example:* If a woman making $25 an hour gets a 10% raise, she will make an additional $2.50 an hour, because $2.50 is $\frac{1}{10}$ or 10% of $25.	**Chapter 11: 11-2 through 11-6** • 11-2 Relate Percents to Fractions—pp. 256–257 (Rename percents and fractions; TE Develop Concepts: Race to Equate) • 11-3 Relate Percents to Decimals—pp. 258–259 (Rename a percent as a decimal and a decimal as a percent; TE Develop Concepts: Marking Benchmarks) • 11-4 Relate Decimals, Fractions, and Percents—pp. 260–261 (Connect decimals, fractions, and percents; TE Develop Concepts: Repeat or Terminate?) • 11-5 Percents Greater Than 100%—pp. 262–263 (Rename percents greater than 100%; TE Develop Concepts: Equivalent Numbers, Different Ways (improper fractions)) • 11-6 Percents Less Than 1%—pp. 264–265 (Rename percents less than 1%; TE Develop Concepts: Patterns in Division)
6.1.1.5 Factor whole numbers; express a whole number as a product of prime factors with exponents. *For example:* $24 = 2^3 \times 3$.	**Chapter 4: 4-1** • 4-1 Exponents—pp. 70–71 (Write and evaluate expressions with exponents; TE Develop Concepts: Powers of 10) **Chapter 6: 6-2 through 6-6** • 6-1 Prime Factorization—pp. 124–125 (Use prime factorization to solve problems; TE Develop Concepts: Picturing Factors) • 6-2 Greatest Common Factor—pp. 126–127 (Find the greatest common factor of two or more whole numbers; TE Develop Concepts: Model Common Factors) • 6-3 The Distributive Property and Common Factors—pp. 128–129 (Use the Distributive Property to rewrite addition expressions as multiplication expressions; TE Develop Concepts: Represent the Distributive Property) *continued*

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
	• 6-4 Least Common Multiple—pp. 132–133 (Find the least common multiple (LCM) of two whole numbers; TE Develop Concepts: Using Multiplication Tables to Explore Common Multiples) • 6-5 Problem Solving: Make a List—pp. 134–135 (Make a list to solve a problem; TE Develop Concepts: Greatest Common Factor)
6.1.1.6 Determine greatest common factors and least common multiples. Use common factors and common multiples to calculate with fractions and find equivalent fractions. *For example:* Factor the numerator and denominator of a fraction to determine an equivalent fraction.	**Chapter 6: 6-2 through 6-5** • 6-2 Greatest Common Factor—pp. 126–127 (Find the greatest common factor of two or more whole numbers; TE Develop Concepts: Model Common Factors) • 6-3 The Distributive Property and Common Factors—pp. 128–129 (Use the Distributive Property to rewrite addition expressions as multiplication expressions; TE Develop Concepts: Represent the Distributive Property) • 6-4 Least Common Multiple—pp. 132–133 (Find the least common multiple (LCM) of two whole numbers; TE Develop Concepts: Using Multiplication Tables to Explore Common Multiples) • 6-5 Problem Solving: Make a List—pp. 134–135 (Make a list to solve a problem; TE Develop Concepts: Greatest Common Factor)
6.1.1.7 Convert between equivalent representations of positive rational numbers. *For example:* Express $\frac{10}{7}$ as $\frac{7+3}{7} = \frac{7}{7} + \frac{3}{7} = 1\frac{3}{7}$.	**Chapter 7: 7-2 through 7-4** • 7-2 Relate Fractions and Decimals—pp. 144–145 (Use word names and powers of 10 to relate fractions and decimals; TE Develop Concepts: Fraction-Decimal Riddles (denominators that are powers of 10)) • 7-3 Rename Fractions as Decimals—pp. 146–147 (Divide multi-digit numbers to rename fractions as decimals; TE Develop Concepts: Fractions Represent Division) • 7-4 Rename Decimals as Fractions—pp. 148–149 (Rename decimals as fractions in simplest form; TE Develop Concepts: Fraction-Decimal Equivalencies)

Understand the concept of ratio and its relationship to fractions and to the multiplication and division of whole numbers. Use ratios to solve real-world and mathematical problems.

6.1.2.1 Identify and use ratios to compare quantities; understand that comparing quantities using ratios is not the same as comparing quantities using subtraction. *For example:* In a classroom with 15 boys and 10 girls, compare the numbers by subtracting (there are 5 more boys than girls) or by dividing (there are 1.5 times as many boys as girls). The comparison using division may be expressed as a ratio of boys to girls (3 to 2 or 3:2 or 1.5 to 1).	**Chapter 10: 10-1 through 10-5** • 10-1 Ratios—pp. 226–227 (Use ratio concepts and language to describe relationships between quantities; TE Develop Concepts: Comparing Quantities) • 10-2 Tables of Equivalent Ratios—pp. 228–229 (Use tables of equivalent ratios to solve real-world and mathematical problems; TE Develop Concepts: Model Equivalent Ratios) • 10-3 Tape Diagrams—pp. 230–231 (Use tape diagrams and ratio reasoning to solve real-world and mathematical problems; TE Develop Concepts: Tape Diagrams) • 10-4 Double Number Lines—pp. 232–233 (Use double number line diagrams and ratio reasoning to solve real-world and mathematical problems; TE Develop Concepts: Double Number Lines) • 10-5 Compare Ratios—pp. 236–237 (Use tables to compare ratios and solve real-world and mathematical problems; TE Develop Concepts: Compare Unlike Fractions)

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
6.1.2.2 Apply the relationship between ratios, equivalent fractions and percents to solve problems in various contexts, including those involving mixtures and concentrations. *For example:* If 5 cups of trail mix contains 2 cups of raisins, the ratio of raisins to trail mix is 2 to 5. This ratio corresponds to the fact that the raisins are $\frac{2}{5}$ of the total, or 40% of the total. And if one trail mix consists of 2 parts peanuts to 3 parts raisins, and another consists of 4 parts peanuts to 8 parts raisins, then the first mixture has a higher concentration of peanuts.	**Chapter 11: 11-1 through 11-6** • 11-1 Percent—pp. 254–255 (Use models, fractions, and decimals to express percents; TE Develop Concepts: Translating Between Fractions and Decimals) • 11-2 Relate Percents to Fractions—pp. 256–257 (Rename percents and fractions; TE Develop Concepts: Race to Equate) • 11-3 Relate Percents to Decimals—pp. 258–259 (Rename a percent as a decimal and a decimal as a percent; TE Develop Concepts: Marking Benchmarks) • 11-4 Relate Decimals, Fractions, and Percents—pp. 260–261 (Connect decimals, fractions, and percents; TE Develop Concepts: Repeat or Terminate?) • 11-5 Percents Greater Than 100%—pp. 262–263 (Rename percents greater than 100%; TE Develop Concepts: Equivalent Numbers, Different Ways (improper fractions)) • 11-6 Percents Less Than 1%—pp. 264–265 (Rename percents less than 1%; TE Develop Concepts: Patterns in Division)
6.1.2.3 Determine the rate for ratios of quantities with different units. *For example:* 60 miles for every 3 hours is equivalent to 20 miles for every one hour (20 mph).	**Chapter 10: 10-6** • 10-6 Rates and Unit Rates—pp. 238–239 (Understand, describe, and calculate rates and unit rates; TE Develop Concepts: Ratio Language)
6.1.2.4 Use reasoning about multiplication and division to solve ratio and rate problems. *For example:* If 5 items cost $3.75, and all items are the same price, then 1 item costs 75 cents, so 12 items cost $9.00.	**Chapter 10: 10-8 through 10-10** • 10-8 Equations for Proportional Relationships—pp. 242–243 (Use ratios and rates to write equations and solve problems; TE Develop Concepts: Proportions) • 10-9 Graphs of Proportional Relationships—pp. 244–245 (Use ratio and rate reasoning to make tables of equivalent ratios and plot pairs of values on the coordinate plane; TE Develop Concepts: Line Graphs) • 10-10 Problem Solving: Make a Model—pp. 246–247 (Make a table to organize and solve problems; TE Develop Concepts: Making and Using Tables)

Multiply and divide decimals, fractions and mixed numbers; solve real-world and mathematical problems using arithmetic with positive rational numbers.

6.1.3.1 Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms.	**Chapter 2: 2-3** • 2-3 Multiply with Decimals—pp. 26–27 (Multiply multi-digit decimals; TE Develop Concepts: Multiply Decimals by Converting to Fractions) **Chapter 3: 3-2 through 3-4** • 3-2 Divide Decimals by 10, 100, and 1000—pp. 44–45 (Divide multi-digit decimals by 10, 100, and 1000; TE Develop Concepts: Understanding Place Value and Division) • 3-3 Divide Decimals by Whole Numbers—pp. 46–47 (Divide multi-digit decimals by whole numbers; TE Develop Concepts: Understanding Division Patterns) *continued*

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
	• 3-4 Divide Decimals by 0.1, 0.01, and 0.001—pp. 50–51 (Divide multi-digit decimals by 01, 001, and 0001; TE Develop Concepts: Relating Decimal Multiplication and Division) **Chapter 8: 8-1 through 8-12** • 8-1 Multiply Fractions—pp. 164–165 (Multiply fractions; TE Develop Concepts: Model Fraction Multiplication) • 8-5 Divide Fractions by Fractions—pp. 172–173 (Divide fractions and solve word problems that require division of fractions; TE Develop Concepts: Explore Division with Fraction Strips) • 8-7 Divide with Whole and Mixed Numbers—pp. 176–177 (Divide fractions, whole numbers, and mixed numbers; TE Develop Concepts: Mixed Number Circles)
6.1.3.2 Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions. *For example:* Just as $\frac{12}{4} = 3$ means $12 = 3 \times 4$, $\frac{2}{3} \div \frac{4}{5} = \frac{5}{6}$ means $\frac{5}{6} \times \frac{4}{5} = \frac{2}{3}$.	**Chapter 8: 8-1 through 8-12** • 8-1 Multiply Fractions—pp. 164–165 (Multiply fractions; TE Develop Concepts: Model Fraction Multiplication) • 8-2 Properties of Multiplication—pp. 166–167 (Use properties of multiplication to multiply fractions and write equivalent expressions; TE Develop Concepts: Illustrated Glossary) • 8-3 Meaning of Division by a Fraction—pp. 168–169 (Interpret the meaning of division by a fraction; TE Develop Concepts: Understand the Meaning of Division) • 8-4 Model Dividing Fractions by Fractions—pp. 170–171 (Use models to show dividing fractions; TE Develop Concepts: Division MATHO) • 8-5 Divide Fractions by Fractions—pp. 172–173 (Divide fractions and solve word problems that require division of fractions; TE Develop Concepts: Explore Division with Fraction Strips) • 8-6 Estimate Quotients of Fractions and Mixed Numbers—pp. 174–175 (Estimate quotients of fractions and mixed numbers; TE Develop Concepts: Comparing Fractions) • 8-7 Divide with Whole and Mixed Numbers—pp. 176–177 (Divide fractions, whole numbers, and mixed numbers; TE Develop Concepts: Mixed Number Circles) • 8-8 Order of Operations with Fractions—pp. 180–181 (Use the order of operations to simplify and evaluate expressions with fractions; TE Develop Concepts: Finding Order) • 8-9 Fractions with Money—pp. 182–183 (Multiply and divide dollar amounts by fractions; TE Develop Concepts: Sharing Money) • 8-10 Multiplication and Division Expressions with Fractions—pp. 184–185 (Write and evaluate multiplication and division expressions with fractions; TE Develop Concepts: Expressions on a Roll (algebraic expressions)) • 8-11 Multiplication and Division Equations with Fractions—pp. 186–187 (Write and solve multiplication and division equations with fractions; TE Develop Concepts: In Search of a Solution (Multiplication Property of Equality)) • 8-12 Problem Solving: Use a Model—pp. 188–189 (Use a model to solve problems; TE Develop Concepts: Top Models)
6.1.3.3 Calculate the percent of a number and determine what percent one number is of another number to solve problems in various contexts. *For example:* If John has $45 and spends $15, what percent of his money did he keep?	**Chapter 11: 11-8** • 11-8 Find the Percent—pp. 270–271 (Divide a part by a whole to find a percent; TE Develop Concepts: Tic-Tac-Go! (equivalent decimals, percents, fractions))

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
6.1.3.4 Solve real-world and mathematical problems requiring arithmetic with decimals, fractions and mixed numbers.	**Chapter 1: 1-2 through 1-6** • 1-2 Add Decimals—pp. 4–5 (Add multi-digit decimals; TE Develop Concepts: Estimate, Model, and Compare) • 1-3 Subtract Decimals—pp. 6–7 (Subtract multi-digit decimals; TE Develop Concepts: Estimate, Model, Compare) • 1-4 Write Addition and Subtraction Expressions—pp. 10–11 (Read and write algebraic expressions; TE Develop Concepts: Write Numerical Expressions in Symbols and Words) • 1-5 Evaluate Addition and Subtraction Expressions—pp. 12–13 (Evaluate addition and subtraction expressions at specific values of the variables; TE Develop Concepts: Write and Evaluate Addition and Subtraction Expressions) • 1-6 Problem Solving: The Four-Step Process—pp. 14–15 (Use the Four-Step Process to solve problems; TE Develop Concepts: Model Part-Whole Relationships and Compare Situations) **Chapter 2: 2-1 through 2-6** • 2-1 Multiply Decimals by 0.1, 0.01, and 0.001—pp. 22–23 (Use multiplication patterns to multiply by 01, 001, and 0001; TE Develop Concepts: Multiply by 0.1, 0.01, and 0.001 by Dividing by Powers of 10) • 2-2 Estimate Decimal Products—pp. 24–25 (Estimate decimal products by rounding; TE Develop Concepts: Round Factors to Estimate Products) • 2-3 Multiply with Decimals—pp. 26–27 (Multiply multi-digit decimals; TE Develop Concepts: Multiply Decimals by Converting to Fractions) 2-4 Write Multiplication Expressions—pp. 30–31 (Read and write multiplication expressions with numbers and variables) **Chapter 3: 3-4 through 3-10** • 3-4 Divide Decimals by 0.1, 0.01, and 0.001—pp. 50–51 (Divide multi-digit decimals by 01, 001, and 0001) • 3-5 Estimate Decimal Quotients—pp. 52–53 (Use estimation to divide multi-digit decimals; TE Develop Concepts: Estimating Quotients in Whole Number Division) • 3-6 Decimal Divisors—pp. 54–55 (Divide with decimal divisors; TE Develop Concepts: Comparing Equations) • 3-7 Zeros in Division—pp. 56–57 (Divide multi-digit decimals that require writing zeros; TE Develop Concepts: Find Meaning in Place Value) • 3-8 Write Division Expressions—pp. 58–59 (Read and write division expressions with numbers and with letters that stand for numbers; TE Develop Concepts: Translating Verbal Expressions into Mathematical Expressions) • 3-9 Evaluate Division Expressions—pp. 60–61 (Write and evaluate division expressions) • 3-10 Problem Solving: Use Logical Reasoning—pp. 62–63 (Solve real-world division problems and make sense of the solution; TE Develop Concepts: Using Your Head: Answering real-world questions using new skills; exact or estimates) **Chapter 7: 7-5 through 7-7** • 7-5 Addition and Subtraction Expressions with Fractions—pp. 152–153 (Read, write, and evaluate addition and subtraction expressions with fractions; TE Develop Concepts: Explore Adding Expressions) 7-6 Addition and Subtraction Equations with Fractions—pp. 154–155 (Read, write, and solve addition and subtraction equations with fractions; TE Develop Concepts: Modeling Addition) *continued*

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
	• 7-7 Problem Solving: Choose a Strategy—pp. 156–157 (Choose a strategy to solve problems; TE Develop Concepts: Using Models (relationships between measurements)) **Chapter 8: 8-5 through 8-12** • 8-5 Divide Fractions by Fractions—pp. 172–173 (Divide fractions and solve word problems that require division of fractions; TE Develop Concepts: Explore Division with Fraction Strips) • 8-6 Estimate Quotients of Fractions and Mixed Numbers—pp. 174–175 (Estimate quotients of fractions and mixed numbers; TE Develop Concepts: Comparing Fractions) • 8-7 Divide with Whole and Mixed Numbers—pp. 176–177 (Divide fractions, whole numbers, and mixed numbers; TE Develop Concepts: Mixed Number Circles) • 8-8 Order of Operations with Fractions—pp. 180–181 (Use the order of operations to simplify and evaluate expressions with fractions) • 8-9 Fractions with Money—pp. 182–183 (Multiply and divide dollar amounts by fractions) • 8-10 Multiplication and Division Expressions with Fractions—pp. 184–185 (Write and evaluate multiplication and division expressions with fractions) • 8-11 Multiplication and Division Equations with Fractions—pp. 186–187 (Write and solve multiplication and division equations with fractions; TE Develop Concepts: In Search of a Solution (Multiplication Property of Equality)) • 8-12 Problem Solving: Use a Model—pp. 188–189 (Use a model to solve problems; TE Develop Concepts: Top Models)
6.1.3.5 Estimate solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem. *For example:* The sum $\frac{1}{3}$ + 0.25 can be estimated to be between $\frac{1}{2}$ and 1, and this estimate can be used to check the result of a more detailed calculation.	**Chapter 1: 1-1 through 1-3** • 1-1 Estimate Decimal Sums and Differences—pp. 2–3 (Use front-end estimation and rounding to estimate decimal sums and differences; assess reasonableness; TE Develop Concepts: Estimate by rounding) • 1-2 Add Decimals—pp. 4–5 (Estimate by rounding; TE Develop Concepts: Estimate, Model, and Compare) • 1-3 Subtract Decimals—pp. 6–7 (Estimate by rounding; TE Develop Concepts: Estimate, Model, Compare) **Chapter 2: 2-2 & 2-3** • 2-2 Estimate Decimal Products—pp. 24–25 (Estimate decimal products by rounding; TE Develop Concepts: Round Factors to Estimate Products) • 2-3 Multiply with Decimals—pp. 26–27 (Estimate by rounding) **Chapter 3: 3-1, 3-3, 3-5, 3-7 & 3-10** • 3-1 Divide Whole Numbers—pp. 42–43 (Estimate using compatible numbers) • 3-3 Divide Decimals by Whole Numbers—pp. 46–47 (Estimate using compatible numbers) • 3-5 Estimate Decimal Quotients—pp. 52–53 (Use estimation to divide multi-digit decimals; TE Develop Concepts: Estimating Quotients in Whole Number Division) • 3-7 Zeros in Division—pp. 56–57 (Front-end estimation) • 3-10 Problem Solving: Use Logical Reasoning—pp. 62–63 (TE Develop Concepts: Using Your Head: Answering real-world questions using new skills; exact or estimates) **Chapter 5: 5-3** • 5-3 Multiplication and Division Equations—pp. 102–103 (Write equations and use multiplication and division to solve for a variable; TE Develop Concepts: Estimating Products and Quotients) *continued*

NUMBER & OPERATION

Grade 6 Content Standards	*Sadlier Math*, Grade 6
	Chapter 8: 8-6, 8-7 & 8-9 • 8-6 Estimate Quotients of Fractions and Mixed Numbers—pp. 174–175 (Estimate quotients of fractions and mixed numbers; TE Develop Concepts: Comparing Fractions) • 8-7 Divide with Whole and Mixed Numbers—pp. 176–177 (Use compatible numbers to estimate) • 8-9 Fractions with Money—pp. 182–183 (Estimate using mental math)

ALGEBRA

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Recognize and represent relationships between varying quantities; translate from one representation to another; use patterns, tables, graphs and rules to solve real-world and mathematical problems.	
6.2.1.1 Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts. *For example:* If a student earns $7 an hour in a job, the amount of money earned can be represented by a variable and is related to the number of hours worked, which also can be represented by a variable.	**Chapter 13: 13-1 through 13-4** • 13-1 Related Quantities—pp. 298–299 (Identify the relationship between two variables and use rate to solve problems; TE Develop Concepts: Find the Best Deal) • 13-2 Relationships in Words and Tables—pp. 300–301 (Use tables to identify and describe the relationship between dependent and independent variables; TE Develop Concepts: Number Pattern Puzzles) • 13-3 Relationships in Equations and Graphs—pp. 302–303 (Use graphs and equations to describe relationships between dependent and independent variables; TE Develop Concepts: Concentrate on Relationships (between two variables)) • 13-4 Multiple Representations of a Relationship—pp. 306–307 (Use tables, equations, and graphs to represent the relationship between independent and dependent variables; TE Develop Concepts: Make More Equal Parts)
6.2.1.2 Represent the relationship between two varying quantities with function rules, graphs and tables; translate between any two of these representations. *For example:* Describe the terms in the sequence of perfect squares $t = 1, 4, 9, 16, \ldots$ by using the rule $t = n^2$ for $n = 1, 2, 3, 4, \ldots$.	**Chapter 13: 13-3** • 13-3 Relationships in Equations and Graphs—pp. 302–303 (Use graphs and equations to describe relationships between dependent and independent variables; TE Develop Concepts: Concentrate on Relationships (between two variables))

ALGEBRA

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Use properties of arithmetic to generate equivalent numerical expressions and evaluate expressions involving positive rational numbers.	
6.2.2.1 Apply the associative, commutative and distributive properties and order of operations to generate equivalent expressions and to solve problems involving positive rational numbers. *For example:* $\frac{32}{15} \times \frac{5}{6} = \frac{32 \times 5}{15 \times 6} = \frac{2 \times 16 \times 5}{3 \times 5 \times 3 \times 2} = \frac{16}{9} \times \frac{2}{2} \times \frac{5}{5} = \frac{16}{9}$. *Another example:* Use the distributive law to write: $\frac{1}{2} + \frac{1}{3}\left(\frac{9}{2} - \frac{15}{8}\right) = \frac{1}{2} + \frac{1}{3} \times \frac{9}{2} - \frac{1}{3} \times \frac{15}{8} = \frac{1}{2} + \frac{3}{2} - \frac{5}{8} + 2 - \frac{5}{8} = 1\frac{3}{8}$.	**Chapter 4: 4-7 & 4-8** • 4-7 Apply Properties to Write Equivalent Expressions—pp. 84–85 (Apply properties of operations to write equivalent expressions; TE Develop Concepts: Use Properties to Simplify Expressions) • 4-8 Identify Equivalent Expressions—pp. 86–87 (Identify equivalent expressions; TE Develop Concepts: Explore Identity Properties) **Chapter 6: 6-3** • 6-3 The Distributive Property and Common Factors—pp. 128–129 (Use the Distributive Property to rewrite addition expressions as multiplication expressions; TE Develop Concepts: Represent the Distributive Property) **Chapter 8: 8-2** • 8-2 Properties of Multiplication—pp. 166–167 (Use properties of multiplication to multiply fractions and write equivalent expressions; TE Develop Concepts: Illustrated Glossary)
Understand and interpret equations and inequalities involving variables and positive rational numbers. Use equations and inequalities to represent real-world and mathematical problems; use the idea of maintaining equality to solve equations. Interpret solutions in the original context.	
6.2.3.1 Represent real-world or mathematical situations using equations and inequalities involving variables and positive rational numbers. *For example:* The number of miles m in a k kilometer race is represented by the equation m = 0.62 *k*.	**Chapter 5: 5-5 through 5-8** • 5-5 Inequalities—pp. 108–109 (Write word sentences and math sentences that contain an inequality; TE Develop Concepts: Ordering Numbers (after simplifying expressions)) • 5-6 Solutions of Inequalities—pp. 110–111 (Use substitution to determine whether a value is a solution of an inequality; Identify solutions of an inequality on a number line; TE Develop Concepts: A Living Number Line) • 5-7 Write Inequalities—pp. 112–113 (Recognize when a real-world situation has a limit or boundary and write an inequality to model it; TE Develop Concepts: Inequality Families (write equations and inequalities)) • 5-8 Solve Inequalities—pp. 114–115 (Solve one-step inequalities; TE Develop Concepts: Equation Stations (equivalent equations))

ALGEBRA

Grade 6 Content Standards	*Sadlier Math*, Grade 6
6.2.3.2 Solve equations involving positive rational numbers using number sense, properties of arithmetic and the idea of maintaining equality on both sides of the equation. Interpret a solution in the original context and assess the reasonableness of results. *For example:* A cellular phone company charges $0.12 per minute. If the bill was $11.40 in April, how many minutes were used?	**Chapter 5: 5-1 through 5-4, 5-9** • 5-1 Solutions of Equations—pp. 98–99 (Use substitution to determine whether a value is a solution of an equation) • 5-2 Addition and Subtraction Equations—pp. 100–101 (Write equations and use addition and subtraction to solve for a variable) • 5-3 Multiplication and Division Equations—pp. 102–103 (Write equations and use multiplication and division to solve for a variable; TE Develop Concepts: Estimating Products and Quotients) • 5-4 Write and Solve Equations—pp. 104–105 (Solve problems by writing and solving equations; TE Develop Concepts: Translating Words into Mathematics) • 5-9 Problem Solving: Write and Solve an Equation—pp. 116–117 (Use the problem-solving strategy write and solve an equation; TE Develop Concepts: Analyze Sale Prices)

GEOMETRY & MEASUREMENT

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Calculate perimeter, area, surface area and volume of two- and three-dimensional figures to solve real-world and mathematical problems	
6.3.1.1 Calculate the surface area and volume of prisms and use appropriate units, such as cm^2 and cm^3. Justify the formulas used. Justification may involve decomposition, nets or other models. *For example:* The surface area of a triangular prism can be found by decomposing the surface into two triangles and three rectangles.	**Chapter 15: 15-1 through 15-6** • 15-1 Nets of Three-Dimensional Figures—pp. 338–339 (Use nets to represent three-dimensional figures; TE Develop Concepts: Relate Two-Dimensional and Three-Dimensional Figures) • 15-2 Use Nets to Find Surface Areas of Prisms—pp. 340–341 (Find the surface area of a prism; TE Develop Concepts: Relate Areas of Rectangles and Triangles to Surface Areas of Prisms) • 15-3 Use Nets to Find Surface Areas of Pyramids—pp. 342–343 (Find the surface area of a pyramid; TE Develop Concepts: Relate Areas of Squares and Triangles to Surface Areas of Pyramids) • 15-4 Use Cubes to Find Volumes—pp. 346–347 (Use cubes to find the volume of a rectangular prism; TE Develop Concepts: Model Fractional Edge Lengths) • 15-5 Volumes of Right Rectangular Prisms—pp. 348–349 (Use formulas to find the volume of a rectangular prism) • 15-6 Problem Solving: Compare Models—pp. 350–351 (Compare strategies to solve problems; Relate the mass of an object to its volume; TE Develop Concepts: Different Models)
6.3.1.2 Calculate the area of quadrilaterals. Quadrilaterals include squares, rectangles, rhombuses, parallelograms, trapezoids and kites. When formulas are used, be able to explain why they are valid. *For example:* The area of a kite is one-half the product of the lengths of the diagonals, and this *continued*	**Chapter 14: 14-1 through 14-7** • 14-1 Areas of Parallelograms and Rhombuses—pp. 316–317 (Find the areas of parallelograms; TE Develop Concepts: Name Banners) • 14-2 Areas of Triangles—pp. 318–319 (Use a formula to find the area of triangles; TE Develop Concepts: Areas of Complex Figures) • 14-3 Areas of Trapezoids—pp. 320–321 (Use a formula to find the area of a trapezoid; TE Develop Concepts: Order of Operations & Formulas) • 14-4 Circumferences and Areas of Circles—pp. 324–325 (Find the circumference and area of a circle; TE Develop Concepts: Investigate Pi) *continued*

GEOMETRY & MEASUREMENT

Grade 6 Content Standards	*Sadlier Math*, Grade 6
can be justified by decomposing the kite into two triangles.	• 14-5 Areas of Regular Polygons—pp. 326–327 (Find the area of a regular polygon; TE Develop Concepts: Regular Polygons) • 14-6 Areas of Composite Figures—pp. 328–329 (Find the areas of composite figures; TE Develop Concepts: Creative Geometry (create pictures with shapes)) • 14-7 Problem Solving: Find a Pattern—pp. 330–331 (Find a pattern to solve problems; TE Develop Concepts: Identify Number Patterns; find area of composite figures)
6.3.1.3 Estimate the perimeter and area of irregular figures on a grid when they cannot be decomposed into common figures and use correct units, such as cm and cm^2.	**Chapter 14: 14-2, 14-6 & 14-7** • 14-2 Areas of Triangles—pp. 318–319 (TE Develop Concepts: Areas of Complex Figures) • 14-6 Areas of Composite Figures—pp. 328–329 (Find the areas of composite figures; TE Develop Concepts: Creative Geometry (create pictures with shapes)) • 14-7 Problem Solving: Find a Pattern—pp. 330–331 (Find a pattern to solve problems; TE Develop Concepts: Identify Number Patterns; find area of composite figures) **Chapter 9: 9-9 & 9-11** • 9-9 Distance on the Coordinate Plane—pp. 214–215 (TE Develop Concepts: Perimeter) • 9-11 Problem Solving: Draw a Picture—pp. 218–219 (TE Develop Concepts: Finding Perimeters) Related content (area) **Chapter 14: 14-1 through 14-7** • 14-1 Areas of Parallelograms and Rhombuses—pp. 316–317 (Find the areas of parallelograms; TE Develop Concepts: Name Banners) • 14-3 Areas of Trapezoids—pp. 320–321 (Use a formula to find the area of a trapezoid) • 14-4 Circumferences and Areas of Circles—pp. 324–325 (Find the circumference and area of a circle) • 14-5 Areas of Regular Polygons—pp. 326–327 See also Grade 3 (perimeter of irregular figures) **Chapter 16: 16-1 through 16-3** • 16-1 Understand Perimeter—pp. 332–333 (Find the perimeter of polygons that are shown on grids; TE Develop Concepts: Explore Distance Around a Shape) • 16-2 Find Perimeter—pp. 334–335 (Find the perimeter of polygons; TE Develop Concepts: Explore Squares and Rectangles) • 16-3 Find Unknown Side Lengths—pp. 336–337 (Find the unknown side lengths of a polygon when given the perimeter; TE Develop Concepts: Explore Side Lengths)

GEOMETRY & MEASUREMENT

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Understand and use relationships between angles in geometric figures.	
6.3.2.1 Solve problems using the relationships between the angles formed by intersecting lines. *For example:* If two streets cross, forming four corners such that one of the corners forms an angle of 120˚, determine the measures of the remaining three angles. *Another example:* Recognize that pairs of interior and exterior angles in polygons have measures that sum to 180˚.	See Grade 4 **Chapter 16: 16-2 through 16-5** • 16-2 Angle Measure—pp. 352–353 (Recognize that an angle turns through a fraction of a circle with the vertex of the angle at the center of the circle; degrees; TE Develop Concepts: Angles and Circles) • 16-3 Measure Angles—pp. 356–357 (Measure and sketch angles using a protractor; Workbook: draw an angle; TE Develop Concepts: Measuring Angles) • 16-4 Unknown Angle Measures—pp. 358–359 (Find unknown angle measures; TE Develop Concepts: Additive Property) • 16-5 Parallel and Perpendicular Lines—pp. 360–361 (Identify and draw parallel and perpendicular lines; TE Develop Concepts: Map Lines)
6.3.2.2 Determine missing angle measures in a triangle using the fact that the sum of the interior angles of a triangle is 180˚. Use models of triangles to illustrate this fact. *For example:* Cut a triangle out of paper, tear off the corners and rearrange these corners to form a straight line. *Another example:* Recognize that the measures of the two acute angles in a right triangle sum to 90˚.	See Grade 4 **Chapter 16: 16-2 through 16-4** • 16-2 Angle Measure—pp. 352–353 (Recognize that an angle turns through a fraction of a circle with the vertex of the angle at the center of the circle; degrees; TE Develop Concepts: Angles and Circles) • 16-3 Measure Angles—pp. 356–357 (Measure and sketch angles using a protractor; Workbook: draw an angle; TE Develop Concepts: Measuring Angles) • 16-4 Unknown Angle Measures—pp. 358–359 (Find unknown angle measures; TE Develop Concepts: Additive Property)
6.3.2.3 Develop and use formulas for the sums of the interior angles of polygons by decomposing them into triangles.	N/A
Choose appropriate units of measurement and use ratios to convert within measurement systems to solve real-world and mathematical problems.	
6.3.3.1 Solve problems in various contexts involving conversion of weights, capacities, geometric measurements and times within measurement systems using appropriate units.	**Chapter 12: 12-1 through 12-4** • 12-1 Convert Customary Units—pp. 282–283 (Use ratio reasoning to convert customary units; TE Develop Concepts: Comparing Units of Measure) • 12-2 Convert Metric Units—pp. 284–285 (Use ratio reasoning to convert between metric units; TE Develop Concepts: Comparing Metric Measures) *continued*

GEOMETRY & MEASUREMENT

Grade 6 Content Standards	*Sadlier Math*, Grade 6
	• 12-3 Convert Between Customary and Metric Units—pp. 288–289 (Use ratio reasoning to convert between customary and metric units; TE Develop Concepts: Comparing Systems of Measure) • 12-4 Problem Solving: Choose a Strategy—pp. 290–291 (Choose a strategy to solve conversion problems; TE Develop Concepts: Different Strategies to Solve (conversions))
6.3.3.2 Estimate weights, capacities and geometric measurements using benchmarks in measurement systems with appropriate units. *For example:* Estimate the height of a house by comparing to a 6-foot man standing nearby.	See Grade 5 **Chapter 14: 14-1 through 14-7** • 14-1 Relate Customary Units of Length—pp. 316–317 (Convert customary units of length; TE Develop Concepts: Measurement Scavenger Hunt) • 14-2 Relate Customary Units of Capacity—pp. 318–319 (Convert customary units of capacity; TE Develop Concepts: Visual Relationships) • 14-3 Relate Customary Units of Weight—pp. 320–321 (Convert customary units of weight; TE Develop Concepts: Compare Weights) • 14-4 Compute with Customary Units—pp. 322–323 (Use computation skills to solve problems involving customary units; TE Develop Concepts: Equivalent Units) • 14-5 Relate Metric Units of Length—pp. 326–327 (Convert metric units of length; TE Develop Concepts: One-Meter Challenge)

DATA ANALYSIS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Use probabilities to solve real-world and mathematical problems; represent probabilities using fractions, decimals and percents.	
6.4.1.1 Determine the sample space (set of possible outcomes) for a given experiment and determine which members of the sample space are related to certain events. Sample space may be determined by the use of tree diagrams, tables or pictorial representations. *For example:* A 6 × 6 table with entries such as (1,1), (1,2), (1,3), ..., (6,6) can be used to represent the sample space for the experiment of simultaneously rolling two number cubes.	N/A

DATA ANALYSIS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
6.4.1.2 Determine the probability of an event using the ratio between the size of the event and the size of the sample space; represent probabilities as percents, fractions and decimals between 0 and 1 inclusive. Understand that probabilities measure likelihood. *For example:* Each outcome for a balanced number cube has probability $\frac{1}{6}$, and the probability of rolling an even number is $\frac{1}{2}$.	N/A
6.4.1.3 Perform experiments for situations in which the probabilities are known, compare the resulting relative frequencies with the known probabilities; know that there may be differences. *For example:* Heads and tails are equally likely when flipping a fair coin, but if several different students flipped fair coins 10 times, it is likely that they will find a variety of relative frequencies of heads and tails.	N/A
6.4.1.4 Calculate experimental probabilities from experiments; represent them as percents, fractions and decimals between 0 and 1 inclusive. Use experimental probabilities to make predictions when actual probabilities are unknown. *For example:* Repeatedly draw colored chips with replacement from a bag with an unknown mixture of chips, record relative frequencies, and use the results to make predictions about the contents of the bag.	N/A