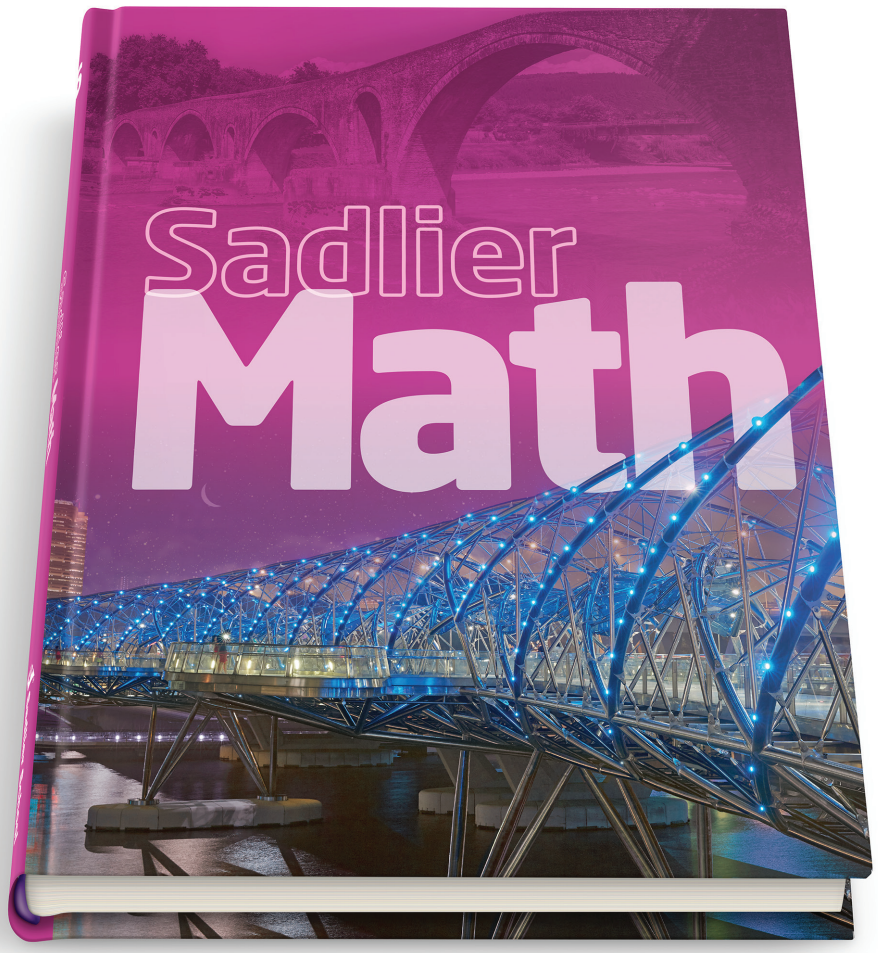
Sadlier Math™

Correlation to the Alabama 2019 Course of Study Mathematics

Grade 6



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RATIOS AND PROPORTIONAL RELATIONSHIPS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Understand ratio concepts and use ratio reasoning to solve problems.	
1. [6.RP.1] Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. Examples: The ratio of wings to beaks in the birdhouse at the zoo was 2:1 because for every 2 wings there was 1 beak. For every vote candidate A received, candidate C received nearly three votes.	**Chapter 10: 10-1** • 10-1 Ratios—pp. 226–227
2. [6.RP.2] Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. Examples: This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar. We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.	**Chapter 10: 10-6 through 10-9** • 10-6 Rates and Unit Rates—pp. 238–239 • 10-7 Compare Prices—pp. 240–241 • 10-8 Equations for Proportional Relationships—pp. 242–243 • 10-9 Graphs of Proportional Relationships—pp. 244–245
3. [6.RP.3] Use ratio and rate reasoning to solve real-world and mathematical problems. Sample problems may involve reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	
a. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables (through studying their additive and multiplicative structure), and plot the pairs of values on the coordinate plane. Use tables to compare ratios.	**Chapter 10: 10-2, 10-5, 10-7, 10-9 & 10-10** • 10-2 Tables of Equivalent Ratios—pp. 228–229 • 10-5 Compare Ratios—pp. 236–237 • 10-7 Compare Prices—pp. 240–241 • 10-9 Graphs of Proportional Relationships—pp. 244–245 • 10-10 Problem Solving: Make a Table—pp. 246–247
b. Solve unit rate problems including those involving unit pricing, and constant speed. Example: If it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?	**Chapter 10: 10-6 through 10-9** • 10-6 Rates and Unit Rates—pp. 238–239 • 10-7 Compare Prices—pp. 240–241 • 10-8 Equations for Proportional Relationships—pp. 242–243 • 10-9 Graphs of Proportional Relationships—pp. 244–245

RATIOS AND PROPORTIONAL RELATIONSHIPS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
c. Find a percent of a quantity as a rate per 100; find the whole, given a part of the percent find the part given the whole or percent. Example: 30% of a quantity means 30/100 times the quantity Example: Nine is what percent of 45? Example: Three is 20% of what number? Example: Using mental math reasoning, determine the percents and explore the relationships of 10%, 20%, 40%, 50% of 60.	**Chapter 11: 11-1 through 11-10** • 11-1 Percent—pp. 254–255 • 11-2 Relate Percents to Fractions—pp. 256–257 • 11-3 Relate Percents to Decimals—pp. 258–259 • 11-4 Relate Decimals, Fractions, and Percents—pp. 260–261 • 11-5 Percents Greater Than 100%—pp. 262–263 • 11-6 Percents Less Than 1%—pp. 264–265 • 11-7 Find the Part—pp. 268–269 • 11-8 Find the Percent—pp. 270–271 • 11-9 Find the Whole—pp. 272–273 • 11-10 Problem Solving: Act it Out—pp. 274–275
d. Use ratio reasoning to convert measurement units within or between customary and metric systems; manipulate and transform units appropriately when multiplying or dividing quantities. Example: Given 1 pound = 454 grams, how many grams are in 3 pounds?	**Chapter 12: 12-1 through 12-4** • 12-2 Convert Metric Units—pp. 284–285 • 12-3 Convert Between Customary and Metric Units—pp. 288–289 • 12-4 Problem Solving: Choose a Strategy—pp. 290–291

THE NUMBER SYSTEM

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Apply and extend previous understandings of multiplication and division to divide fractions.	
4. [6.NS.1] Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context, use a visual fraction model to show the quotient, or use the relationship between multiplication *continued*	**Chapter 8: 8-3 through 8-11** • 8-3 Meaning of Division by a Fraction—pp. 168–169 • 8-4 Model Dividing Fractions by Fractions—pp. 170–171 • 8-5 Divide Fractions by Fractions—pp. 172–173 • 8-6 Estimate Quotients of Fractions and Mixed Numbers—pp. 174–175 • 8-7 Divide with Whole and Mixed Numbers—pp. 176–177 • 8-8 Order of Operations with Fractions—pp. 180–181 • 8-9 Fractions with Money—pp. 182–183 • 8-10 Multiplication and Division Expressions with Fractions—pp. 184–185 • 8-11 Multiplication and Division Equations with Fractions—pp. 186–187

THE NUMBER SYSTEM

Grade 6 Content Standards	*Sadlier Math*, Grade 6
and division to explain examples, such as (2/3) ÷ (3/4) = (8/9), because 3/4 of 8/9 is 2/3. How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?	

Compute multi-digit numbers fluently through the use of factors, multiples, and the distributive property.

5. [6.NS.2] Fluently divide multi-digit numbers using a standard algorithm.	**Chapter 3: 3-1** • 3-1 Divide Whole Numbers—pp. 42–43
6. [6.NS.3] Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation.	**Chapter 1: 1-1 through 1-3** • 1-1 Estimate Decimal Sums and Differences—pp. 2–3 • 1-2 Add Decimals—pp. 4–5 • 1-3 Subtract Decimals—pp. 6–7 **Chapter 2: 2-1 through 2-3** • 2-1 Multiply Decimals by 0.1, 0.01, and 0.001—pp. 22–23 • 2-2 Estimate Decimal Products—pp. 24–25 • 2-3 Multiply with Decimals—pp. 26–27 **Chapter 3: 3-2 through 3-7** • 3-2 Divide Decimals by 10, 100, and 1000—pp. 44–45 • 3-3 Divide Decimals by Whole Numbers—pp. 46–47 • 3-4 Divide Decimals by 0.1, 0.01, and 0.001—pp. 50–51 • 3-5 Estimate Decimal Quotients—pp. 52–53 • 3-6 Decimal Divisors—pp. 54–55 • 3-7 Zeros in Division—pp. 56–57
7. [6.NS.4] Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum two whole numbers with no common factor. Example: Express 36 + 8 as 4(9+ 2). Example: Factor the sum of terms as a product of the GCF and a sum. 36h + 88 Solution: 4(9h + 22) Example: Write three equivalent expressions *continued*	**Chapter 6: 6-1 through 6-4** • 6-1 Prime Factorization—pp. 124–125 • 6-2 Greatest Common Factor—pp. 126–127 • 6-3 The Distributive Property and Common Factors—pp. 128–129 • 6-4 Least Common Multiple—pp. 132–133

THE NUMBER SYSTEM

Grade 6 Content Standards	*Sadlier Math*, Grade 6
for the given expression. 8(4 + 8K) Solution: 2^3(4 + 8k); 32 + 64k; 8 • 4(1 + 2k)	

Apply and extend previous understandings of numbers to the system of rational numbers.

8. [6.NS.5] Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts explaining the meaning of 0 in each situation. Sample problems may include temperature above/below zero, elevation above/below sea level, and credits/debits. Example: a. Use an integer to represent 500 feet below sea level. b. Use an integer to represent 500 feet above sea level. c. What would 0 (zero) represent in the examples listed above? Solutions: a) -500 b) +500 c) 0 would represent sea level	**Chapter 9: 9-2** • 9-2 Integers in the Real World—pp. 198–199
9. [6.NS.6] Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	
a. Model combinations of integers and other rational numbers, recognizing the importance of "zero pairs." Example: -3 + 5	**Chapter 9: 9-1** • 9-1 Integers on the Number Line—pp. 196–197
b. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is *continued*	**Chapter 9: 9-8** • 9-8 Reflections of Points—pp. 212–213

THE NUMBER SYSTEM

Grade 6 Content Standards	*Sadlier Math*, Grade 6
the number itself and that 0 is its own opposite. Example: -(-3) = 3	
c. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.	**Chapter 9: 9-1 through 9-3, 9-5 through 9-11** • 9-1 Integers on the Number Line—pp. 196–197 • 9-2 Integers in the Real World—pp. 198–199 • 9-3 Compare and Order Integers—pp. 200–201 • 9-5 Rational Numbers—pp. 204–205 • 9-6 Compare and Order Rational Numbers—pp. 206–207 • 9-7 Plot Points in the Coordinate Plane—pp. 210–211 • 9-8 Reflections of Points—pp. 212–213 • 9-9 Distance on the Coordinate Plane—pp. 214–215 • 9-10 Plot Polygons—pp. 216–217 • 9-11 Problem Solving: Draw a Picture—pp. 218–219
d. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. Example: Place the following numbers on a number line: 1½, -4.9, 8, 15/2, -8/4, 6.2, -15/2 Based on number line placement, numbers can be placed in numerical order.	**Chapter 9: 9-1** • 9-1 Integers on the Number Line—pp. 196–197
10. [6.NS.7] Understand ordering and absolute value of rational numbers.	
a. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. Example: Interpret – 3 > – 7 as a statement that – 3 is located to the right of -7 on a number line oriented from left to right.	**Chapter 9: 9-3 & 9-6** • 9-3 Compare and Order Integers—pp. 200–201 • 9-6 Compare and Order Rational Numbers—pp. 206–207
b. Write, interpret, and explain statements of order for rational numbers in real-world contexts. Example: Write –3°C > –7°C to express the fact that –3°C is warmer than –7°C.	**Chapter 9: 9-3 & 9-6** • 9-3 Compare and Order Integers—pp. 200–201 • 9-6 Compare and Order Rational Numbers—pp. 206–207

THE NUMBER SYSTEM

Grade 6 Content Standards	*Sadlier Math*, Grade 6
c. Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. Example: For an account balance of – 30 dollars, write |–30| = 30 to describe the size of the debt in dollars.	**Chapter 9: 9-3 & 9-4** • 9-3 Compare and Order Integers—pp. 200–201 • 9-4 Absolute Value as Magnitude—pp. 202–203
d. Distinguish comparisons of absolute value from statements about order. Example: Recognize that an account balance less than – 30 dollars represents a debt greater than 30 dollars.	**Chapter 9: 9-4** • 9-4 Absolute Value as Magnitude—pp. 202–203
11. [6.NS.8] Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	**Chapter 9: 9-7 through 9-11** • 9-7 Plot Points in the Coordinate Plane—pp. 210–211 • 9-8 Reflections of Points—pp. 212–213 • 9-9 Distance on the Coordinate Plane—pp. 214–215 • 9-10 Plot Polygons—pp. 216–217 • 9-11 Problem Solving: Draw a Picture—pp. 218–219

EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Apply and extend previous understandings of arithmetic to algebraic expressions.	
12. [6.EE.1] Write, evaluate, and compare numerical expressions involving whole-number exponents. Example: Find the value of 8^2. Example: Compare. Write <, >, =. $6^2 \square 4^3$	**Chapter 4: 4-1 & 4-2** • 4-1 Exponents—pp. 70–71 • 4-2 Order of Operations—pp. 72–73

EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
13. [6.EE.2] Write, read, and evaluate expressions in which letters stand for numbers.	
a. Write expressions that record operations with numbers and with letters standing for numbers. Example: Express the calculation, "Subtract y from 5," as 5 – y.	**Chapter 1: 1-4** • 1-4 Write Addition and Subtraction Expressions—pp. 10–11 **Chapter 2: 2-4** • 2-4 Write Multiplication Expressions—pp. 30–31 **Chapter 3: 3-8** **Chapter 4: 4-2 through 4-9** • 4-2 Order of Operations—pp. 72–73 • 4-3 Parts of Expressions—pp. 74–75 • 4-4 Translate Expressions—pp. 76–77 • 4-5 Translate Expressions Involving Exponents—pp. 78–79 • 4-6 Use the Distributive Property and Evaluate Algebraic Expressions—pp. 82–83 • 4-7 Apply Properties to Write Equivalent Expressions—pp. 84–85 • 4-8 Identify Equivalent Expressions—pp. 86–87 • 4-9 Use Formulas—pp. 88–89 **Chapter 7: 7-5** • 7-5 Addition and Subtraction Expressions with Fractions—pp. 152–153 **Chapter 8: 8-10** • 8-10 Multiplication and Division Expressions with Fractions—pp. 184–185
b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. Example: Describe the expression 2(8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.	**Chapter 1: 1-4** • 1-4 Write Addition and Subtraction Expressions—pp. 10–11 **Chapter 2: 2-1 & 2-4** • 2-1 Multiply Decimals by 0.1, 0.01, and 0.001—pp. 22–23 • 2-4 Write Multiplication Expressions—pp. 30–31 **Chapter 3: 3-8** • 3-8 Write Division Expressions—pp. 58–59 **Chapter 4: 4-3** • 4-3 Parts of Expressions—pp. 74–75
c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Example: Use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length s = 1/2 in *continued*	**Chapter 1: 1-5** • 1-5 Evaluate Addition and Subtraction Expressions—pp. 12–13 **Chapter 2: 2-5** 2-5 Evaluate Multiplication Expressions—pp. 32–33 **Chapter 3: 3-9** 3-9 Evaluate Division Expressions—pp. 60–61 **Chapter 4: 4-2, 4-6, 4-8 & 4-9** • 4-2 Order of Operations—pp. 72–73 *continued*

EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Example: The area of a coffee table can be represented by l × w, where l is the length and w is the width. What is the area of the table top if l = 70 in and w = 50 in? Example: Use the formula *distance/time = rate* to determine the rate a student traveled to class if the student leaves science class and arrives 30 seconds later in a math classroom 60 meters away?	• 4-6 Use the Distributive Property and Evaluate Algebraic Expressions—pp. 82–83 • 4-8 Identify Equivalent Expressions—pp. 86–87 • 4-9 Use Formulas—pp. 88–89 **Chapter 7: 7-5** • 7-5 Addition and Subtraction Expressions with Fractions—pp. 152–153 **Chapter 8: 8-10** • 8-10 Multiplication and Division Expressions with Fractions—pp. 184–185
d. Perform arithmetic operations, including those involving whole-number exponents, using the conventional order of operations to specify a particular order. Example: Simplify. (2· 20+8 · 3)÷ 42 Solution: 4 Example: Add parenthesis to make the statement true. 12−3 ·2 + 42 =34 Solution: (12−3)	**Chapter 4: 4-2** • 4-2 Order of Operations—pp. 72–73
14. [6.EE.3] Apply the properties of operations to generate equivalent expressions. Example: Apply the distributive property to the expression 3(2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y. Example: Given (2 + 5) + 6, write an equivalent statement using the Associative Property of Addition. Example: Given 3v • 4, write an equivalent statement using the Commutative Property of Multiplication.	**Chapter 4: 4-7** • 4-7 Apply Properties to Write Equivalent Expressions—pp. 84–85

EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
15. [6.EE.4] Identify when two expressions are equivalent, that is, when the two expressions name the same number regardless of value is substituted into them. Example: The expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y represents. Example: The expression $3v \cdot 4$ and $4 \cdot 3v$ are equivalent because they represent the same number regardless of which number v represents.	**Chapter 4: 4-8** • 4-8 Identify Equivalent Expressions—pp. 86–87
Reason about and solve one-variable equations and inequalities.	
16. [6.EE.5] Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. Example: Using the set {0, 2 1/2, 4}, find the value of x so that x +3 1/2 = 6. Example: Using the set {0, 6, 13/2 , 4.8, 17}, find the value(s) of x so that x + 4.2 > 9.	**Chapter 5: 5-1 & 5-6** • 5-1 Solutions of Equations—pp. 98–99 • 5-6 Solutions of Inequalities—pp. 110–111
17. [6.EE.6] Use variables to represent numbers, and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number or, depending on the purpose at hand, any number in a specified set. Example: The trampoline park charges $100 to reserve the facility. There is also a $5 per person cost. Write an expression to represent the cost for any number of people. If n =	**Chapter 4: 4-4** • 4-4 Translate Expressions—pp. 76–77 **Chapter 5: 5-2 through 5-4, 5-7 through 5-9** • 5-2 Addition and Subtraction Equations—pp. 100–101 • 5-3 Multiplication and Division Equations—pp. 102–103 • 5-4 Write and Solve Equations—pp. 104–105 • 5-7 Write Inequalities—pp. 112–113 • 5-8 Solve Inequalities—pp. 114–115 • 5-9 Problem Solving: Write and Solve an Equation—pp. 116–117

continued

EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
n = the number of people, then 100 + 5n could represent the total cost to host a party at the trampoline park regardless of the number of guests.	
18. [6.EE.7] Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers. Example: Becky gets paid $25.00 for dogsitting. She spent $5.39 on treats and $8.60 on dog toys. Write and solve an equation to show how much money Becky has left after making her purchases.	**Chapter 5: 5-2 & 5-3** • 5-2 Addition and Subtraction Equations—pp. 100–101 • 5-3 Multiplication and Division Equations—pp. 102–103 **Chapter 7: 7-6** • 7-6 Addition and Subtraction Equations with Fractions—pp. 154–155 **Chapter 8: 8-11** • 8-11 Multiplication and Division Equations with Fractions—pp. 186–187
19. [6.EE.8] Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams. Example: Write an inequality for the situation. Last Monday, there was at least 3 inches of rain. Solution: x ≥ 3, where x represents the number of inches of rain Example: José saved at the most $50.00 to spend at the store. Write an inequality to represent the amount of money José saved. What are some possible amounts of money José could have saved? Represent this situation on a number line. Solution: x ≤ 50, where x represents the amount of money José saved.	**Chapter 5: 5-5 through 5-8** • 5-5 Inequalities—pp. 108–109 • 5-6 Solutions of Inequalities—pp. 110–111 • 5-7 Write Inequalities—pp. 112–113 • 5-8 Solve Inequalities—pp. 114–115

EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6

Represent and analyze quantitative relationships between dependent and independent variables.

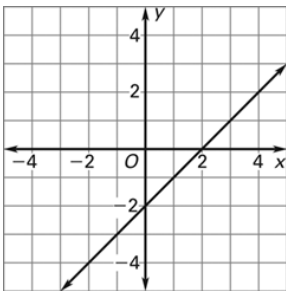
20. [6.EE.9] Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

Example: In a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.

Example: What is the relationship between the two variables? Write an expression that illustrates the relationship.

x	-1	0	1	2	3
y	-3	-2	-1	0	1

Use the graph below to describe the change in y as x increases by 1.



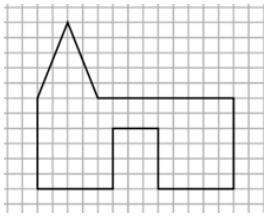
Chapter 13: 13-1 through 13-4

- 13-1 Related Quantities—pp. 298–299
- 13-2 Relationships in Words and Tables—pp. 300–301
- 13-3 Relationships in Equations and Graphs—pp. 302–303
- 13-4 Multiple Representations of a Relationship—pp. 306–307

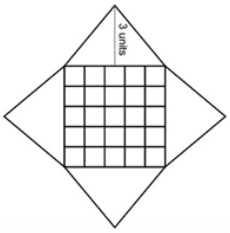
EXPRESSION AND EQUATIONS

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Example: Frankie opened a savings account by depositing $10. She plans to add $5 per week to her account. Use a table and graph to demonstrate the relationship between the number of weeks the account is open and the balance in her savings account. Identify the independent and dependent variable. x represents the independent variable (number of weeks the account is open) and y represents the dependent variable (account balance) Explain the relationship between the independent and dependent variable. For each week the account is open, the balance in the account increases by $5.00. Interpret and explain x = 0, x = 4, y = 15, y = 25 with respect to the weeks since the account was opened and resulting balance in the account. x = 0 represents the week the account was opened. x = 4 represents the 4th week the account was opened. y = 15 represents the balance of the account after week one. y = 25 represents the balance of the account after week 3.	

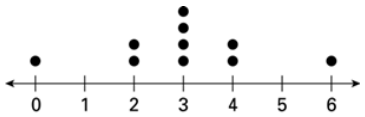
GEOMETRY

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Solve real-world and mathematical problems involving area, surface area, and volume.	
21. [6.G.1] By composing into rectangles or decomposing into triangles and other shapes, find the area of right triangles, other triangles, special quadrilaterals, and polygons; apply these techniques in the context of solving real-world and mathematical problems. Example: Find the area of the following shape by decomposing the shape below. (Solution: 76 sq. units) 	**Chapter 14: 14-1 through 14-3, 14-5 & 14-6** • 14-1 Areas of Parallelograms and Rhombuses—pp. 316–317 • 14-2 Areas of Triangles—pp. 318–319 • 14-3 Areas of Trapezoids—pp. 320–321 • 14-5 Areas of Regular Polygons—pp. 326–327 • 14-6 Areas of Composite Figures—pp. 328–329
22. [6.G.2] Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = lwh and V = Bh to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. Example: What is the volume of the rectangular prism if each cube measures ½ inch on each side Solution: V = 8 $in.^3$	**Chapter 15: 15-4 through 15-6** • 15-4 Use Cubes to Find Volumes—pp. 346–347 • 15-5 Volumes of Right Rectangular Prisms—pp. 348–349 • 15-6 Problem Solving: More Than One Way—pp. 350–351

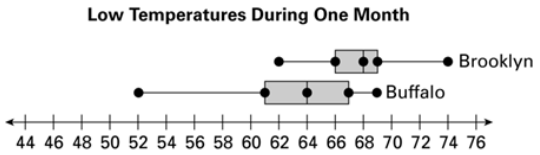
GEOMETRY

Grade 6 Content Standards	*Sadlier Math*, Grade 6
23. [6.G.3] Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. Example: Plot a 4th point on the coordinate plane to form a rectangle. What are the coordinate of the 4th point you plotted? (-1, -6) What is the perimeter of the rectangle that has been formed? (P = 22 units) What is the area of the rectangle that has been formed? (A = 30 units^2)	**Chapter 9: 9-10 & 9-11** • 9-10 Plot Polygons—pp. 216–217 • 9-11 Problem Solving: Draw a Picture—pp. 218–219
24. [6.G.4] Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. Example: Find the surface area of the square pyramid shown. (Solution: 55 units^2) 	**Chapter 15: 15-1 through 15-3** • 15-1 Nets of Three-Dimensional Figures—pp. 338–339 • 15-2 Use Nets to Find Surface Areas of Prisms—pp. 340–341 • 15-3 Use Nets to Find Surface Areas of Pyramids—pp. 342–343

STATISTICS AND PROBABILITY

Grade 6 Content Standards	*Sadlier Math*, Grade 6
Develop understanding of statistical variability.	
25. [6.SP.1] Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. Example: "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.	**Chapter 16: 16-1** • 16-1 Statistical Questions—pp. 358–359
26. [6.SP.2] Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. Example: The data set and dot plot display the number of goals made by a player in each game of a tournament. What is the correct description of the distribution? 3 0 2 3 6 2 4 3 3 4 Number of goals made in each game  Solution: The values range from 0-6. There is a peak at 3. The median is 3, which means 50% of the goals are greater than or equal to 3 and 5 are less than or equal to 3. The mean is also 3. The data is normal; the measures of center Example: The two box plots show the low temperatures during one month. are equal. *continued*	**Chapter 16: 16-2 through 16-5** • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 • 16-5 Analyze Data—pp. 368–369 **Chapter 17: 17-2 & 17-4** • 17-2 Box Plots—pp. 380–381 • 17-4 Data Distributions—pp. 386–387

STATISTICS AND PROBABILITY

Grade 6 Content Standards	*Sadlier Math*, Grade 6
 Overall, the low temperatures were higher in Brooklyn, and the spread of temperatures was greater in Buffalo.	
27. [6.SP.3] Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.	**Chapter 16: 16-2 through 16-4** • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367

Summarize and describe distributions.

28. [6.SP.4] Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	**Chapter 17: 17-1 through 17-3** • 17-1 Dot Plots—pp. 378–379 • 17-2 Box Plots—pp. 380–381 • 17-3 Histograms—pp. 382–383
29. [6.SP.5] Summarize numerical data sets in relation to their context, such as by:	
a. Reporting the number of observations.	**Chapter 16: 16-2 through 16-5** • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 • 16-5 Analyze Data—pp. 368–369 **Chapter 17: 17-1 through 17-4** • 17-1 Dot Plots—pp. 378–379 • 17-2 Box Plots—pp. 380–381 • 17-3 Histograms—pp. 382–383 • 17-4 Data Distributions—pp. 386–387
b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.	**Chapter 16: 16-2 through 16-5** • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 • 16-5 Analyze Data—pp. 368–369 **Chapter 17: 17-1 through 17-4** • 17-1 Dot Plots—pp. 378–379 • 17-2 Box Plots—pp. 380–381 • 17-3 Histograms—pp. 382–383 • 17-4 Data Distributions—pp. 386–387

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c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.	**Chapter 16: 16-2 through 16-5** • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 • 16-5 Analyze Data—pp. 368–369 **Chapter 17: 17-1 through 17-4** • 17-1 Dot Plots—pp. 378–379 • 17-2 Box Plots—pp. 380–381 • 17-3 Histograms—pp. 382–383 • 17-4 Data Distributions—pp. 386–387
d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	**Chapter 16: 16-2 through 16-5** • 16-2 Measures of Center—pp. 360–361 • 16-3 Measures of Variation: Range and Interquartile Range—pp. 362–363 • 16-4 Measure of Variation: Mean Absolute Deviation—pp. 366–367 • 16-5 Analyze Data—pp. 368–369 **Chapter 17: 17-1 through 17-4** • 17-1 Dot Plots—pp. 378–379 • 17-2 Box Plots—pp. 380–381 • 17-3 Histograms—pp. 382–383 • 17-4 Data Distributions—pp. 386–387