Fundamentals of Algebra

Common Core Progress Mathematics

Common Core State Standards for Mathematics

Grade 7 Crosswalk

Chapter 1 Integers

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7	
1-1 **Integers and Absolute Value**—TE pp. 2–3B; SB pp. 2–3 / PB pp. 1–2	**Lesson 8** **Understand Addition of Integers**—pp. 72–79	7.NS.1a	Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
		7.NS.1b	Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
1-2 **Compare and Order Integers**—TE pp. 4–5B; SB pp. 4–5 / PB pp. 3–4			
1-3 **Add Integers**—TE pp. 6–7B; SB pp. 6–7 / PB pp. 5–6	**Lesson 8** **Understand Addition of Integers**—pp. 72–79	7.NS.1a	Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
		7.NS.1b	Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative

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		rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
1-4 **Subtract Integers**—TE pp. 8–9B; SB pp. 8–9 / PB pp. 7–8	**Lesson 8** **Understand Addition of Integers**—pp. 72–79	7.NS.1a Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
		7.NS.1b Understand $p + q$ as the number located a distance $\lvert q \rvert$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.
	Lesson 9 **Understand Subtraction of Integers**—pp. 80–87	7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

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	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
*1-4A **Distance on a Number Line**—pp. Online	**Lesson 9** **Understand Subtraction of Integers**—pp. 80–87	7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
*1-4B **Understanding Integers**—pp. Online	**Lesson 8** **Understand Addition of Integers**—pp. 72–79	7.NS.1a Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
1-5 **Multiply Integers**—TE pp. 9–10B; SB pp. 10–11 / PB pp. 9–10	**Lesson 11** **Understand Multiplication of Integers**—pp. 96–103	7.NS.2a Understand that multiplication is extended from fractions to rational numbers by requiring *– continued on next page –*

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			that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
1-6 **Divide Integers**—TE pp. 12–13B; SB pp. 12–13 / PB pp. 11–12	**Lesson 11** **Understand Multiplication of Integers**—pp. 96–103	7.NS.2a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

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	Lesson 12 **Understand Division of Integers**—pp. 104–111	7.NS.2b	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]

[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions. |
| | **Lesson 18** **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165 | 7.EE.3 | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. |
| **1-7** **Properties**—TE pp. 14–15B; SB pp. 14–15 / PB pp. 13–14 | **Lesson 8** **Understand Addition of Integers**—pp. 72–79 | 7.NS.1b | Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. |

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	Lesson 9	**Understand Subtraction of Integers**—pp. 80–87	7.NS.1c	Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
	Lesson 10	**Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d	Apply properties of operations as strategies to add and subtract rational numbers.
	Lesson 11	**Understand Multiplication of Integers**—pp. 96–103	7.NS.2a	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
	Lesson 12	**Understand Division of Integers**—pp. 104–111	7.NS.2b	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
	Lesson 13	**Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
	Lesson 15	**Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]
				[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18	**Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to
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			calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
			For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
1-8 **Closure Property**—TE pp. 16–17B; SB pp. 16–17 / PB pp. 15–16	**Lesson 10 Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d	Apply properties of operations as strategies to add and subtract rational numbers.
	Lesson 12 Understand Division of Integers—pp. 104–111	7.NS.2b	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
	Lesson 15 Apply Rational-Number Operations—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]

[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions. |
| | **Lesson 18   Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165 | 7.EE.3 | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the

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			reasonableness of answers using mental computation and estimation strategies.
			For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
1-9 **Powers and Laws of Exponents**—TE pp. 18–19B; SB pp. 18–19 / PB pp. 17–18	**Lesson 13** **Multiply and Divide Rational Numbers**— pp. 112–119	7.NS.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
1-10 **Order of Operations**—TE pp. 20–21B; SB pp. 20–21 / PB pp. 19–20	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]
			[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
			For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

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*1-10A Solve Real-World Problems with Operations and Properties—pp. Online	**Lesson 15 Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
1-11 The Coordinate Plane—TE pp. 22–23B; SB pp. 22–23 / PB pp. 21–22		
1-12 Problem Solving Strategy: Guess and Test—TE pp. 24–25B; SB pp. 24–25 / PB pp. 23–24	**Lesson 15 Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert *– continued on next page –*

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		between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Chapter 2 Expressions and Equations

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
2-1 **Mathematical Expressions**—TE pp. 30–31B; SB pp. 30–31 / PB pp. 33–34	**Lesson 16** **Combine Like Terms to Simplify Linear Expressions**—pp. 142–149 **Lesson 17** **Expand and Factor Linear Expressions**—pp. 150–157	7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*
2-2 **Simplify and Evaluate Algebraic Expressions**—TE pp. 32–33B; SB pp. 32–33 / PB pp. 35–36	**Lesson 16** **Combine Like Terms to Simplify Linear Expressions**—pp. 142–149 **Lesson 17** **Expand and Factor Linear Expressions**—pp. 150–157	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
2-3 **Equations**—TE pp. 34–35B; SB pp. 34–35 / PB pp. 37–38		

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Grade 7

Chapter 2 Expressions and Equations

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2-4 **Solve Addition Equations**—TE pp. 36–37B; SB pp. 36–37 / PB pp. 39–40 **2-5** **Solve Subtraction Equations**—TE pp. 38–39B; SB pp. 38–39 / PB pp. 41–42 **2-6** **Solve Multiplication Equations**—TE pp. 40–41B; SB pp. 40–41 / PB pp. 43–44	**Lesson 19** **Solve Linear Equations**—pp. 166–173 **Lesson 20** **Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
2-7 **Solve Division Equations**—TE pp. 42–43B; SB pp. 42–43 / PB pp. 45–46		
2-8 **Solve Two–Step Equations**—TE pp. 44–45B; SB pp. 44–45 / PB pp. 47–48 ***2-8A** **Solving Equations of the Form a(x + b) = c Using Integers**—pp. Online	**Lesson 19** **Solve Linear Equations**—pp. 166–173 **Lesson 20** **Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
2-9 **Formulas**—TE pp. 46–47B; SB pp. 46–47 / PB pp. 49–50	**Lesson 29** **Problem Solving: Area, Volume, and Surface Area**—pp. 252–259	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
*2-9A **Compare Arithmetic and Algebraic Problem-Solving Methods**—pp. Online	**Lesson 19** **Solve Linear Equations**—pp. 166–173 **Lesson 20** **Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
2-10 **Problem Solving Strategy: Organize Data**—TE pp. 48–49B; SB pp. 48–49 / PB pp. 51–52		

Chapter 3 Inequalities

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
3-1 **Inequalities**—TE pp. 54–55B; SB pp. 54–55 / PB pp. 61–62	**Lesson 21** **Solve Linear Inequalities**—pp. 182–189 **Lesson 22** **Problem Solving: Linear Inequalities**—pp. 190–197	7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*
3-2 **Graph Inequalities on a Number Line**—TE pp. 56–57B; SB pp. 56–57 / PB pp. 63–64		
3-3 **Model Properties of Inequality**—TE pp. 58–59B; SB pp. 58–59 / PB pp. 65–66		
3-4 **Solve Inequalities Using Addition and Subtraction**—TE pp. 60–61B; SB pp. 60–61 / PB pp. 67–68	**Lesson 21** **Solve Linear Inequalities**—pp. 182–189 **Lesson 22** **Problem Solving: Linear Inequalities**—pp. 190–197	7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*
3-5 **Solve Inequalities Using Multiplication**—TE pp. 62–63B; SB pp. 62–63 / PB pp. 69–70		
***3-6A** **Solve Two-Step Inequalities**—pp. Online	**Lesson 21** **Solve Linear Inequalities**—pp. 182–189 **Lesson 22** **Problem Solving: Linear Inequalities**—pp. 190–197	7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*

Chapter 3 Inequalities

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3-6 **Solve Inequalities Using Division**—TE pp. 64–65B; SB pp. 64–65 / PB pp. 71–72		
3-7 **Problem Solving Strategy: Find a Pattern**—TE pp. pp. 66–67B; SB pp. 66–67 / PB pp. 73–74	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Chapter 4 Rational Numbers: Decimals

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4-1 **Rational Numbers**—TE pp. 72–73B; SB pp. 72–73 / PB pp. 83–84	**Lesson 12** **Understand Division of Integers**—pp. 104–111	7.NS.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.

Chapter 4 Rational Numbers: Decimals

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4-2 **Equivalent Rational Numbers**—TE pp. 74–75B; SB pp. 74–75 / PB pp. 85–86	**Lesson 12** **Understand Division of Integers**—pp. 104–111	7.NS.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
	Lesson 14 **Convert Rational Numbers to Decimal Form**—pp. 120–127	7.NS.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
4-3 **Compare and Order Decimals**—TE pp. 76–77B; SB pp. 76–77 / PB pp. 87–88		
4-4 **Estimate Decimal Sums and Differences**—TE pp. 78–79B; SB pp. 78–79 / PB pp. 89–90		
4-5 **Add and Subtract Decimals**—TE pp. 80–81B; SB pp. 80–81 / PB pp. 91–92	**Lesson 9** **Understand Subtraction of Integers**—pp. 80–87	7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
	Lesson 10 **Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.
	Lesson 11 **Understand Multiplication of Integers**—pp. 96–103	7.NS.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

Chapter 4 Rational Numbers: Decimals

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
	Lesson 15 Apply Rational-Number Operations—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
4-6 Multiply Decimals—TE pp. 82–83B; SB pp. 82–83 / PB pp. 93–94	**Lesson 15 Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *– continued on next page –*

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7		COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7	
				– continued from previous page –
				For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
4-7 **Estimate Decimal Products and Quotients**—TE pp. 84–85B; SB pp. 84–85 / PB pp. 95–96	**Lesson 13**	**Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
4-8 **Divide Decimals**—TE pp. 86–87B; SB pp. 86–87 / PB pp. 97–98	**Lesson 13**	**Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
	Lesson 15	**Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18	**Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Chapter 4 Rational Numbers: Decimals

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7	
4-9 **Negative Exponents**—TE pp. 88–89B; SB pp. 88–89 / PB pp. 99–100			
4-10 **Scientific Notation**—TE pp. 90–91B; SB pp. 90–91 / PB pp. 101–102			
4-11 **Operations with Scientific Notation**—TE pp. 92–93B; SB pp. 92–93 / PB pp. 103–104			
4-12 **Addition and Subtraction Equations with Decimals**—TE pp. 94–95B; SB pp. 94–95 / PB pp. 105–106			
4-13 **Multiplication and Division Equations with Decimals**—TE pp. 96–97B; SB pp. 96–97 / PB pp. 107–108	**Lesson 13** **Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]
			[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
			For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
4-14 **Solve Two-Step Equations with Decimals**—TE pp. 98–99B; SB pp. 98–99 / PB pp. 109–110	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
*4-14A **Solving Equations of the Form a(x + b) = c Using Decimals**—pp. Online	**Lesson 19** **Solve Linear Equations**—pp. 166–173 **Lesson 20** **Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
4-15 **Rename Metric Units of Measure**—TE pp. 100–101B; SB pp. 100–101 / PB pp. 111–112		

Chapter 4 Rational Numbers: Decimals

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
4-16 **Problem Solving: Review of Strategies**—TE pp. 102-103B; SB pp.102-103 / PB pp. 113-114	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Chapter 5 Rational Numbers: Fractions

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
5-1 **Prime Factorization**—TE pp. 108–109B; SB pp. 108–109 / PB pp. 123–124		
5-2 **Greatest Common Factor**—TE pp. 110–111B; SB pp. 110–111 / PB pp. 125–126		
5-3 **Least Common Multiple**—TE pp. 112–113B; SB pp. 112–113 / PB pp. 127–128		
5-4 **Fraction Sense: Closest to –1, –1/2, 0, 1/2, or 1**—TE pp. 114–115B; SB pp. 114–115 / PB pp. 129–130		

Chapter 5 Rational Numbers: Fractions

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7		COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7	
5-5 **Compare and Order Rational Numbers**—TE pp. 116–117B; SB pp. 116–117 / PB pp. 131–132				
5-6 **Add and Subtract Fractions**—TE pp. 118–119B; SB pp. 118–119 / PB pp. 133–134	**Lesson 9**	**Understand Subtraction of Integers**—pp. 80–87	7.NS.1c	Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
	Lesson 10	**Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d	Apply properties of operations as strategies to add and subtract rational numbers.
	Lesson 15	**Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1] ¹Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18	**Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
5-7 **Add and Subtract Mixed Numbers**—TE pp. 120–121B; SB pp. 120–121 / PB pp. 135–136	**Lesson 9** **Understand Subtraction of Integers**—pp. 80–87	7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
	Lesson 10 **Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1]
		[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
*5-7A **Rational Numbers on a Number Line**—pp. Online	**Lesson 9** **Understand Subtraction of Integers**—pp. 80–87	7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
5-8 **Multiply Fractions**—TE pp. 122–123B; SB pp. 122–123 / PB pp. 137–138	**Lesson 9** **Understand Subtraction of Integers**—pp. 80–87	7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
	Lesson 10 **Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
5-9 **Multiply Mixed Numbers**—TE pp. 124–125B; SB pp. 124–125 / PB pp. 139–140	**Lesson 11** **Understand Multiplication of Integers**—pp. 96–103	7.NS.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying *– continued on next page –*

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			– continued from previous page –
			signed numbers. Interpret products of rational numbers by describing real-world contexts.
	Lesson 15 Apply Rational-Number Operations—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]
			[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
			For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
5-10 Divide Fractions—TE pp. 126–127B; SB pp. 126–127 / PB pp. 141–142	**Lesson 13 Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c	Apply properties of operations as strategies to multiply and divide rational numbers.
5-11 Divide Mixed Numbers—TE pp. 128–129B; SB pp. 128–129 / PB pp. 143–144	**Lesson 15 Apply Rational-Number Operations**—pp. 128–135	7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers.[1]
			[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative
			– continued on next page –

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
		– continued from previous page –
		rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
*5-11A **Different Ways to Solve Problems with Rational Numbers**—pp. Online	**Lesson 19** **Solve Linear Equations**—pp. 166–173 **Lesson 20** **Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
5-12 **Properties of Rational Numbers**—TE pp. 130–131B; SB pp. 130–131 / PB pp. 145–146	**Lesson 11** **Understand Multiplication of Integers**—pp. 96–103	7.NS.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
	Lesson 15 Apply Rational-Number Operations—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
5-13 Order of Operations with Rational Numbers—TE pp. 132–133B; SB pp. 132–133 / PB pp. 147–148	**Lesson 11 Understand Multiplication of Integers**—pp. 96–103	7.NS.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (−1)(−1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
***5-13A Use Rational Numbers to Solve Problems**—pp. Online	**Lesson 11 Understand Multiplication of Integers**—pp. 96–103	7.NS.2a Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (−1)(−1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
	Lesson 12 Understand Division of Integers—pp. 104–111	7.NS.2b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
*5-13B Combining Like Terms—pp. Online	**Lesson 16 Combine Like Terms to Simplify Linear Expressions**—pp. 142–149	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
*5-13C Factoring and Expanding Linear Expressions—pp. Online	**Lesson 17 Expand and Factor Linear Expressions**—pp. 150–157	
5-14 Addition and Subtraction Equations with Fractional Numbers—TE pp. 134–135B; SB pp. 134–135 / PB pp. 149–150	**Lesson 10 Add and Subtract Rational Numbers**—pp. 88–95	7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.
5-15 Multiplication and Division Equations with Fractional Numbers—TE pp. 136–137B; SB pp. 136–137 / PB pp. 151–152	**Lesson 13 Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c Apply properties of operations as strategies to multiply and divide rational numbers.
5-16 Solve Two-Step Equations with Fractions—TE pp. 138–139B; SB pp. 138–139 / PB pp. 153–154	**Lesson 15 Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 Problem Solving: Multi-step Problems with Rational Numbers—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of* *– continued on next page –*

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FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
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		$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
	Lesson 19 Solve Linear Equations—pp. 166–173 **Lesson 20 Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
*5-16A Solving Equations of the Form a(x + b) = c Using Fractions—pp. Online	**Lesson 19 Solve Linear Equations**—pp. 166–173 **Lesson 20 Problem Solving: Linear Equations**—pp. 174–181	7.EE.4a Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*
5-17 Rename Customary Units of Measure—TE pp. 140–141B; SB pp. 140–141 / PB pp. 155–156		
5-18 Problem Solving Strategy: Make a Drawing—TE pp. 142–143B; SB pp. 142–143 / PB pp. 157–158		

Chapter 6 Ratio and Proportion

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
6-1 **Ratio**—TE pp. 148–149B; SB pp. 148–149 / PB pp. 167–168		
6-2 **Unit Rate and Unit Cost**—TE pp. 150–151B; SB pp. 150–151 / PB pp. 169–170	**Lesson 1** **Compute Unit Rates**—pp. 10–17	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
6-3 **Write and Solve Proportions**—TE pp. 152–153B; SB pp. 152–153 / PB pp. 171–172	**Lesson 2** **Identify Proportional Relationships**—pp. 18–25	7.RP.2a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
*6-3A **Use Unit Rates**—pp. Online	**Lesson 1** **Compute Unit Rates**—pp. 10–17	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
*6-3B **Use Rational Numbers to Solve Problems**—pp. Online	**Lesson 3** **Identify the Constant of Proportionality**—pp. 26–33	7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
6-4 **Direct Proportion**—TE pp. 154–155B; SB pp. 154–155 / PB pp. 173–174	**Lesson 4** **Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*

Chapter 6 Ratio and Proportion

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7		COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7	
	Lesson 5	**Interpret Graphs of Proportional Relationships**—pp. 42–49	7.RP.2d	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
6-5 **Proportion by Parts**—TE pp. 156–157B; SB pp. 156–157 / PB pp. 175–176	**Lesson 4**	**Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c	Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
6-6 **Scale Drawings and Models**—TE pp. 158–159B; SB pp. 158–159 / PB pp. 177–178	**Lesson 4**	**Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c	Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
	Lesson 23	**Use Scale Drawings to Solve Problems**—pp. 204–211	7.G.1	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
*6-6A **Identify Unit Rate**—pp. Online	**Lesson 3**	**Identify the Constant of Proportionality**—pp. 26–33	7.RP.2b	Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
*6-6B **Proportional Relationships and Equations**—pp. Online	**Lesson 4**	**Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c	Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
	Lesson 5	**Interpret Graphs of Proportional Relationships**—pp. 42–49	7.RP.2d	Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

Chapter 6 Ratio and Proportion

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
*6-6C **Use Proportional Relationships and Equations to Solve Problems**—pp. Online	**Lesson 4** **Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
	Lesson 5 **Interpret Graphs of Proportional Relationships**—pp. 42–49	7.RP.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
6-7 **Similarity**—TE pp. 160–161B; SB pp. 160–161 / PB pp. 179–180	**Lesson 6** **Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.
6-8 **Indirect Measurement**—TE pp. 162–163B; SB pp. 162–163 / PB pp. 181–182	**Lesson 7** **Problem Solving: Multi-step Percent Problems**—pp. 58–65	*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
6-9 **Inverse Proportion**—TE pp. 164–165B; SB pp. 164–165 / PB pp. 183–184		
6-10 **Dimensional Analysis**—TE pp. 166–167B; SB pp. 166–167 / PB pp. 185–186	**Lesson 1** **Compute Unit Rates**—pp. 10–17	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
6-11 **Problem Solving Strategy: Solve a Simpler Problem**—TE pp. pp. 168–169B; SB pp. 168–169 / PB pp. 187–188	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, *– continued on next page –*

Chapter 6 Ratio and Proportion

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		– continued from previous page –
		fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Chapter 7 Percent and Consumer Applications

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
7-1 **Percents**—TE pp. 174–175B; SB pp. 174–175 / PB pp. 197–198	**Lesson 6** **Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.
7-2 **Fractions, Decimals, Percents**—TE pp. 176–177B; SB pp. 176–177 / PB pp. 199–200	**Lesson 7** **Problem Solving: Multi-step Percent Problems**—pp. 58–65	*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
7-3 **Percents Greater Than 100% / Less Than 1%**—TE pp. 178–179B; SB pp. 178–179 / PB pp. 201–202	**Lesson 13** **Multiply and Divide Rational Numbers**—pp. 112–119	7.NS.2c Apply properties of operations as strategies to multiply and divide rational numbers.
7-4 **Find a Percentage of a Number**—TE pp. 180–181B; SB pp. 180–181 / PB pp. 203–204	**Lesson 4** **Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c Represent proportional relationships by equations.
		For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.

Chapter 7 Percent and Consumer Applications

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7		COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7	
	Lesson 6	**Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3	Use proportional relationships to solve multistep ratio and percent problems.
	Lesson 7	**Problem Solving: Multi-step Percent Problems**—pp. 58–65		*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
7-5	**Find a Percent**—TE pp. 182–183B; SB pp. 182–183 / PB pp. 205–206	Lesson 6	**Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3	Use proportional relationships to solve multistep ratio and percent problems.
		Lesson 7	**Problem Solving: Multi-step Percent Problems**—pp. 58–65		*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
7-6	**Find the Original Number or the Base**—TE pp. 184–185B; SB pp. 184–185 / PB pp. 207–208				
7-7	**Estimate with Percents**—TE pp. 186–187B; SB pp. 186–187 / PB pp. 209–210				
7-8	**Percent Increase**—TE pp. 188–189B; SB pp. 188–189 / PB pp. 211–212	Lesson 6	**Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3	Use proportional relationships to solve multistep ratio and percent problems.
7-9	**Percent Decrease**—TE pp. 190–191B; SB pp. 190–191 / PB pp. 213–214	Lesson 7	**Problem Solving: Multi-step Percent Problems**—pp. 58–65		*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
*7-9A	**Percent Error**—pp. Online				
7-10	**Sales Tax and Tips**—TE pp. 192–193B; SB pp. 192–193 / PB pp. 215–216				
7-11	**Discount and Markup**—TE pp. 194–195B; SB pp. 194–195 / PB pp. 217–218				
*7-11A	**Equivalent Expressions for Percents**—pp. Online	Lesson 16	**Combine Like Terms to Simplify Linear Expressions**—pp. 142–149	7.EE.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
		Lesson 17	**Expand and Factor Linear Expressions**—pp. 150–157		*For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*

Chapter 7 Percent and Consumer Applications

Fundamentals of Algebra, Grade 7	Common Core Progress Mathematics, Grade 7	Common Core State Standards for Mathematics, Grade 7
7-12 **Commission**—TE pp. 196–197B; SB pp. 196–197 / PB pp. 219–220	**Lesson 6** **Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.
7-13 **Simple Interest**—TE pp. 198–199B; SB pp. 198–199 / PB pp. 221–222	**Lesson 7** **Problem Solving: Multi-step Percent Problems**—pp. 58–65	*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
7-14 **Compound Interest**—TE pp. 200–201B; SB pp. 200–201 / PB pp. 223–224		
7-15 **Problem Solving Strategy: Reason Logically**—TE pp. 202–203B; SB pp. 202–203 / PB pp. 225–226	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Chapter 8 Data Analysis and Statistics

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
8-1 **Samples and Surveys**—TE pp. 208–209B; SB pp. 208–209 / PB pp. 235–236	**Lesson 30** **Understand Sampling**—pp. 266–273	7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
	Lesson 31 **Use Sampling to Draw Inferences**—pp. 274–281	7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
*8-1A **Use Samples to Make Predictions**—pp. Online	**Lesson 31** **Use Sampling to Draw Inferences**—pp. 274–281	7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. *For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.*
	Lesson 35 **Relate Relative Frequency and Probability**—pp. 306–313	7.SP.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *– continued on next page –*

Chapter 8 Data Analysis and Statistics

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
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		For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.
	Lesson 37 Finding Experimental Probability—pp. 322–329	7.SP.7b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?
8-2 Measures of Central Tendency and Range—TE pp. 210–211B; SB pp. 210–211 / PB pp. 237–238		
8-3 Interpret Data—TE pp. 212–213B; SB pp. 212–213 / PB pp. 239–240		
8-4 Choose an Appropriate Graph—TE pp. 214–215B; SB pp. 214–215 / PB pp. 241–242		
8-5 Multiple Bar Graphs—TE pp. 216–217B; SB pp. 216–217 / PB pp. 243–244		
8-6 Histograms—TE pp. 218–219B; SB pp. 218–219 / PB pp. 245–246		
8-7 Stem-and-Leaf Plots—TE pp. 220–221B; SB pp. 220–221 / PB pp. 247–248		
8-8 Box-and-Whisker Plots—TE pp. 222–223B; SB pp. 222–223 / PB pp. 249–250		

Chapter 8 Data Analysis and Statistics

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
*8-8A **Variability**—pp. Online *8-8B **Mean Absolute Deviation**—pp. Online	**Lesson 32 Use Visual Overlap to Compare Distributions**—pp. 282–289	7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.*
8-8C **Comparing Data Sets**—pp. Online	**Lesson 33 Use Sample Statistics to Compare Populations**—pp. 290–297	7.SP.4 Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
8-9 **Venn Diagrams**—TE pp. 224–225B; SB pp. 224–225 / PB pp. 251–252		
8-10 **Multiple Line Graphs**—TE pp. 226–227B; SB pp. 226–227 / PB pp. 253–254		
8-11 **Scatter Plots**—TE pp. 228–229B; SB pp. 228–229 / PB pp. 255–256		
8-12 **Misleading Statistics and Graphs**—TE pp. 230–231B; SB pp. 230–231 / PB pp. 257–258		
8-13 **Technology: Create Graphs**—TE pp. 232–233B; SB pp. 232–233 / PB pp. 259–260		

Chapter 8 Data Analysis and Statistics

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
8-14 **Problem Solving: Review of Strategies**—TE pp. 234–235B; SB pp. 234–235 / PB pp. 261–262	**Lesson 1** **Compute Unit Rates**—pp. 10–17	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. *For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.*
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Chapter 9 Two-Dimensional Geometry

Fundamentals of Algebra, Grade 7	Common Core Progress Mathematics, Grade 7	Common Core State Standards for Mathematics, Grade 7
9-1 **Points, Lines, and Planes**—TE pp. 240–241B; SB pp. 240–241 / PB pp. 271–272		
9-2 **Classify and Measure Angles**—TE pp. 242–243B; SB pp. 242–243 / PB pp. 273–274		
9-3 **Angle Pairs**—TE pp. 244–245B; SB pp. 244–245 / PB pp. 275–276	**Lesson 28** **Use Equations to Find Unknown Angle Measures**—pp. 244–251	7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
9-4 **Parallel Lines and Transversals**—TE pp. 246–247B; SB pp. 246–247 / PB pp. 277–278		
9-5 **Congruent Angles and Line Segments**—TE pp. 248–249B; SB pp. 248–249 / PB pp. 279–280		
9-6 **Line Constructions**—TE pp. 250–251B; SB pp. 250–251 / PB pp. 281–282		
9-7 **Polygons**—TE pp. 252–253B; SB pp. 252–253 / PB pp. 283–284	**Lesson 24** **Draw Shapes that Meet Given Conditions**—pp. 212–219	7.G.2 Lines are taken to lines, and line segments to line segments of the same length.
	Lesson 25 **Construct Triangles Using Both Side Lengths and Angle Measures**—pp. 220–227	
9-8 **Triangles**—TE pp. 254–255B; SB pp. 254–255 / PB pp. 285–286		
9-9 **Congruent Triangles**—TE pp. 256–257B; SB pp. 256–257 / PB pp. 287–288	**Lesson 24** **Draw Shapes that Meet Given Conditions**—pp. 212–219	7.G.2 Lines are taken to lines, and line segments to line segments of the same length.
	Lesson 25 **Construct Triangles Using Both Side Lengths and Angle Measures**—pp. 220–227	
	Lesson 28 **Use Equations to Find Unknown Angle Measures**—pp. 244–251	7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

Chapter 9 Two-Dimensional Geometry

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
9-10 **Triangle Constructions**—TE pp. 258–259B; SB pp. 258–259 / PB pp. 289–290	**Lesson 24** **Draw Shapes that Meet Given Conditions**—pp. 212–219	7.G.2 Lines are taken to lines, and line segments to line segments of the same length.
	Lesson 25 **Construct Triangles Using Both Side Lengths and Angle Measures**—pp. 220–227	
9-11 **Quadrilaterals**—TE pp. 260–261B; SB pp. 260–261 / PB pp. 291–292		
9-12 **Circles**—TE pp. 262–263B; SB pp. 262–263 / PB pp. 293–294		
9-13 **Make a Circle Graph**—TE pp. 264–265B; SB pp. 264–265 / PB pp. 295–296		
9-14 **Problem Solving Strategy: Adopt a Different Point of View**—TE pp. 266–267B; SB pp. 266–267 / PB pp. 297–298	**Lesson 1** **Compute Unit Rates**—pp. 10–17	7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.

For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour. |
| | **Lesson 15** **Apply Rational-Number Operations**—pp. 128–135 | 7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1]

[1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions. |
| | **Lesson 18** **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165 | 7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

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Chapter 9 Two-Dimensional Geometry

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
		– continued from previous page –
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
	Lesson 27 **Use Formulas for Area and Circumference of Circles**—pp. 236–243	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
	Lesson 29 **Problem Solving: Area, Volume, and Surface Area**—pp. 252–259	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Chapter 10 Two-Dimensional Geometry and Measurement Applications

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
10-1 **Precision and Accuracy in Measurement**—TE pp. 272–273B; SB pp. 272–273 / PB pp. 307–308		
10-2 **Perimeter**—TE pp. 274–275B; SB pp. 274–275 / PB pp. 309–310	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative

Chapter 10 Two-Dimensional Geometry and Measurement Applications

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
		– continued from previous page –
		rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
		For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
10-3 **Squares and Square Roots**—TE pp. 276–277B; SB pp. 276–277 / PB pp. 311–312		
10-4 **Irrational Numbers**—TE pp. 278–279B; SB pp. 278–279 / PB pp. 313–314		
10-5 **Pythagorean Theorem**—TE pp. 280–281B; SB pp. 280–281 / PB pp. 315–316	**Lesson 23** **Use Scale Drawings to Solve Problems**—pp. 204–211	7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
10-6 **Area of Parallelograms**—TE pp. 282–283B; SB pp. 282–283 / PB pp. 317–318	**Lesson 29** **Problem Solving: Area, Volume, and Surface Area**—pp. 252–259	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
10-7 **Area of Triangles and Trapezoids**—TE pp. 284–285B; SB pp. 284–285 / PB pp. 319–320		
10-8 **Circumference and Area of a Circle**—TE pp. 286–287B; SB pp. 286–287 / PB pp. 321–322	**Lesson 27** **Use Formulas for Area and Circumference of Circles**—pp. 236–243	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Chapter 10 Two-Dimensional Geometry and Measurement Applications

Fundamentals of Algebra, Grade 7	Common Core Progress Mathematics, Grade 7	Common Core State Standards for Mathematics, Grade 7
10-9 **Area of Complex Figures**—TE pp. 288–289B; SB pp. 288–289 / PB pp. 323–324	**Lesson 29** **Problem Solving: Area, Volume, and Surface Area**—pp. 252–259	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
10-10 **Symmetry**—TE pp. 290–291B; SB pp. 290–291 / PB pp. 325–326		
10-11 **Tessellations**—TE pp. 292–293B; SB pp. 292–293 / PB pp. 327–328		
10-12 **Technology: Relate Perimeter and Area**—TE pp. 294–295B; SB pp. 294–295 / PB pp. 329–330		
10-13 **Problem Solving Strategy: Account for All Possibilities**—TE pp. 296–297B; SB pp. 296–297 / PB pp. 331–332	**Lesson 39** **Represent Sample Spaces for Compound Events**—pp. 338–345	7.SP.8b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.

Chapter 11 Three-Dimensional Geometry

Fundamentals of Algebra, Grade 7	Common Core Progress Mathematics, Grade 7	Common Core State Standards for Mathematics, Grade 7
11-1 **Three-Dimensional Figures**—TE pp. 302–303B; SB pp. 302–303 / PB pp. 341–342	**Lesson 26** **Slice Three-Dimensional Figures**—pp. 228–235	7.G.3 Angles are taken to angles of the same measure.
11-2 **Draw Three-Dimensional Figures**—TE pp. 304–305B; SB pp. 304–305 / PB pp. 343–344		
*11-2A **Draw Three-Dimensional Figures**—pp. Online	**Lesson 26** **Slice Three-Dimensional Figures**—pp. 228–235	7.G.3 Angles are taken to angles of the same measure.
11-3 **Surface Area of Prisms**—TE pp. 306–307B; SB pp. 306–307 / PB pp. 345–346	**Lesson 29** **Problem Solving: Area, Volume, and Surface Area**—pp. 252–259	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
11-4 **Surface Area of Pyramids**—TE pp. 308–309B; SB pp. 308–309 / PB pp. 347–348		

Chapter 11 Three-Dimensional Geometry

Fundamentals of Algebra, Grade 7	Common Core Progress Mathematics, Grade 7	Common Core State Standards for Mathematics, Grade 7
11-5 **Surface Area of Cylinders and Cones**—TE pp. 310–311B; SB pp. 310–311 / PB pp. 349–350	**Lesson 26** **Slice Three-Dimensional Figures**—pp. 228–235	7.G.3 Angles are taken to angles of the same measure.
11-6 **Estimate Surface Area**—TE pp. 312–313B; SB pp. 312–313 / PB pp. 351–352	**Lesson 29** **Problem Solving: Area, Volume, and Surface Area**—pp. 252–259	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.
11-7 **Volume of Prisms**—TE pp. 314–315B; SB pp. 314–315 / PB pp. 353–354		
11-8 **Volume of Pyramids**—TE pp. 316–317B; SB pp. 316–317 / PB pp. 355–356		
11-9 **Volume of Cylinders and Cones**—TE pp. 318–319B; SB pp. 318–319 / PB pp. 357–358		
11-10 **Surface Area and Volume of Complex Three-Dimensional Figures**—TE pp. 320–321B; SB pp. 320–321 / PB pp. 359–360		
***11-10A** **Write Expressions in Different Ways**—pp. Online	**Lesson 16** **Combine Like Terms to Simplify Linear Expressions**—pp. 142–149	7.EE.2 Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
	Lesson 17 **Expand and Factor Linear Expressions**—pp. 150–157	*For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05."*
11-11 **Changing Dimensions of Three-Dimensional Figures**—TE pp. 322–323B; SB pp. 322–323 / PB pp. 361–362	**Lesson 4** **Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c Represent proportional relationships by equations.
11-12 **Problem Solving Strategy: Work Backward**—TE pp. 324–325B; SB pp. 324–325 / PB pp. 363–364		*For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
	Lesson 6 **Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.
	Lesson 7 **Problem Solving: Multi-step Percent Problems**—pp. 58–65	*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

Chapter 11 Three-Dimensional Geometry

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
11-12 **Problem Solving Strategy: Work Backward**—TE pp. 324–325B; SB pp. 324–325 / PB pp. 363–364	**Lesson 6** **Problem Solving: Multi-step Ratio Problems**—pp. 50–57	7.RP.3 Use proportional relationships to solve multistep ratio and percent problems.
	Lesson 7 **Problem Solving: Multi-step Percent Problems**—pp. 58–65	*Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*
	Lesson 15 **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Chapter 12 Probability

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
12-1 **Sample Space**—TE pp. 330–331B; SB pp. 330–331 / PB pp. 373–374	**Lesson 34** **Describe the Probability of a Chance Event**—pp. 298–305	7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
12-2 **Fundamental Counting Principle and Factorials**—TE pp. 332–333B; SB pp. 332–333 / PB pp. 375–376	**Lesson 39** **Represent Sample Spaces for Compound Events**—pp. 338–345	7.SP.8b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.
12-3 **Theoretical Probability**—TE pp. 334–335B; SB pp. 334–335 / PB pp. 377–378	**Lesson 34** **Describe the Probability of a Chance Event**—pp. 298–305	7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
12-4 **Experimental Probability**—TE pp. 336–337B; SB pp. 336–337 / PB pp. 379–380	**Lesson 35** **Relate Relative Frequency and Probability**—pp. 306–313	7.SP.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. *For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.*
	Lesson 36 **Finding Theoretical Probability**—pp. 314–321	7.SP.7a Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *– continued on next page –*

Chapter 12 Probability

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
		– continued from previous page –
		For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.
	Lesson 39 **Represent Sample Spaces for Compound Events**—pp. 338–345	7.SP.8b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.
12-5 **Odds and Fairness**—TE pp. 338–339B; SB pp. 338–339 / PB pp. 381–382		
12-6 **Compound Events**—TE pp. 340–341B; SB pp. 340–341 / PB pp. 383–384	**Lesson 38** **Find Probabilities of Compound Events**— pp. 330–337	7.SP.8a Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
	Lesson 39 **Represent Sample Spaces for Compound Events**—pp. 338–345	7.SP.8b Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.
*12-6A **Design a Simulation**—pp. Online	**Lesson 40** **Simulate Compound Events**—pp. 346–353	7.SP.8c Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*
12-7 **Permutations**—TE pp. 342–343B; SB pp. 342–343 / PB pp. 385–386		
12-8 **Combinations**—TE pp. 344–345B; SB pp. 344–345 / PB pp. 387–388		

Chapter 12 Probability

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
12-9 **Problem Solving: Review of Strategies**—TE pp. 346–347B; SB 346–347 / PB pp. 389–390	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
	Lesson 27 **Use Formulas for Area and Circumference of Circles**—pp. 236–243	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Chapter 13 Patterns, Relations, and Functions

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
13-1 **Arithmetic Sequences and Geometric Sequences**—TE pp. 352–353B; SB pp. 352–353 / PB pp. 399–400		

Chapter 13 Patterns, Relations, and Functions

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
13-2 **Algebraic Patterns and Sequences**—TE pp. 354–355B; SB pp. 354–355 / PB pp. 401–402	**Lesson 3** **Identify the Constant of Proportionality**—pp. 26–33	7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
13-3 **Conjectures and Counterexamples**—TE pp. 356–357B; SB pp. 356–357 / PB pp. 403–404		
13-4 **Relations and Functions**—TE pp. 358–359B; SB pp. 358–359 / PB pp. 405–406		
13-5 **Functions**—TE pp. 360–361B; SB pp. 360–361 / PB pp. 407–408		
13-6 **Graph Linear Functions**—TE pp. 362–363B; SB pp. 362–363 / PB pp. 409–410		
13-7 **Slope**—TE pp. 364–365B; SB pp. 364–365 / PB pp. 411–412	**Lesson 3** **Identify the Constant of Proportionality**—pp. 26–33	7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
13-8 **Nonlinear Functions**—TE pp. 366–367B; SB pp. 366–367 / PB pp. 413–414		
*13-8A **Identify Constant of Proportionality**—pp. Online	**Lesson 3** **Identify the Constant of Proportionality**—pp. 26–33	7.RP.2b Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
*13-8B **Graph Proportional Relationships**—pp. Online	**Lesson 4** **Represent Proportional Relationships with Equations**—pp. 34–41	7.RP.2c Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*
	Lesson 5 **Interpret Graphs of Proportional Relationships**—pp. 42–49	7.RP.2d Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.

Chapter 13 Patterns, Relations, and Functions

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
13-9 **Graph a Situation**—TE pp. 368–369B; SB pp. 368–369 / PB pp. 415–416		
13-10 **Graph Translations and Reflections**—TE pp. 370–371B; SB pp. 370–371 / PB pp. 417–418		
13-11 **Graph Rotations**—TE pp. 372–373B; SB pp. 372–373 / PB pp. 419–420		
13-12 **Graph Dilations**—TE pp. 374–375B; SB pp. 374–375 / PB pp. 421–422		
13-13 **Problem Solving Strategy: Consider Extreme Cases**—TE pp. 376–377B; SB pp. 376–377 / PB pp. 423–424	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*
	Lesson 27 **Use Formulas for Area and Circumference of Circles**—pp. 236–243	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Chapter 14 Polynomials, Equations, and Inequalities

Fundamentals of Algebra, Grade 7	Common Core Progress Mathematics, Grade 7	Common Core State Standards for Mathematics, Grade 7
14-1 **Polynomials**—TE pp. 382–383B; SB pp. 382–383 / PB pp. 433–434		
14-2 **Model Polynomials**—TE pp. 384–385B; SB pp. 384–385 / PB pp. 435–436		
14-3 **Add Polynomials**—TE pp. 386–387B; SB pp. 386–387 / PB pp. 437–438	**Lesson 16** **Combine Like Terms to Simplify Linear Expressions**—pp. 142–149	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
14-4 **Subtract Polynomials**—TE pp. 388–389B; SB pp. 388–389 / PB pp. 439–440	**Lesson 17** **Expand and Factor Linear Expressions**—pp. 150–157	
14-5 **Multiply and Divide Monomials**—TE pp. 390–391B; SB pp. 390–391 / PB pp. 441–442		
14-6 **Multiply Polynomials by Monomials**—TE pp. 392–393B; SB pp. 392–393 / PB pp. 443–444		
14-7 **Divide Polynomials by Monomials**—TE pp. 394–395B; SB pp. 394–395 / PB pp. 445–446		
14-8 **Solve Multistep Equations**—TE pp. 396–397B; SB pp. 396–397 / PB pp. 447–448		
14-9 **Addition and Subtraction: Inequalities with Rational Numbers**—TE pp. 398–399B; SB pp. 398–399 / PB pp. 449–450	**Lesson 21** **Solve Linear Inequalities**—pp. 182–189	7.EE.4b Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.
14-10 **Multiplication and Division: Inequalities with Rational Numbers**—TE pp. 400–401B; SB pp. 400–401 / PB pp. 451–452	**Lesson 22** **Problem Solving: Linear Inequalities**—pp. 190–197	*For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*
14-11 **Problem Solving: Review of Strategies**—TE pp. 402–403B; SB pp. 402–403 / PB pp. 453–454	**Lesson 15** **Apply Rational-Number Operations**—pp. 128–135	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.[1] [1]Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

Chapter 14 Polynomials, Equations, and Inequalities

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
	Lesson 18 **Problem Solving: Multi-step Problems with Rational Numbers**—pp. 158–165	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Skills Update

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
SU **I. Place Value—SB p. 407**—pp. SB p. 407		
SU **II. Compare and Order Whole Numbers**—SB p. 407		
SU **III. Round Whole Numbers and Decimals**—SB p. 408		
SU **IV. Compare and Order Decimals**—SB p. 408		
SU **V. Estimate Sums and Differences**—SB p. 409		
SU **VI. Add and Subtract Whole Numbers and Decimals**—SB p. 409		
SU **VII. Multiplication Patterns**—SB p. 410		
SU **VIII. Division Patterns**—SB p. 410		

Skills Update

FUNDAMENTALS OF ALGEBRA, GRADE 7	COMMON CORE PROGRESS MATHEMATICS, GRADE 7	COMMON CORE STATE STANDARDS FOR MATHEMATICS, GRADE 7
SU **IX. Estimate Products**—SB p. 411		
SU **X. Estimate Quotients**—SB p. 411		
SU **XI. Multiply Whole Numbers**—SB p. 411		
SU **XII. Divide Whole Numbers**–SB p. 412		
SU **XIII. Multiply Decimals**–SB p. 412		
SU **XIV. Divide Decimals**—SB p. 413		
SU **XV. Fractions Greater Than or Equal to 1**—SB p. 413		
SU **XVI. Add and Subtract Fractions**—SB p. 414		
SU **XVII. Multiply Fractions**—SB p. 414		
SU **XVIII. Divide Fractions**—SB p. 415		
SU **XIX. Bar Graphs**—SB p. 415		
SU **XX. Line Graphs**—SB p. 416		
SU **XXI. Compute with Units of Measure**—SB p. 416		