| CONTEN | T S | |
|--------------------|--|------|
| | Letter from Author Stephen Hake | xi |
| | Preface | xiii |
| | List of Materials | xxi |
| LESSON 1 | Adding Whole Numbers and Money • Subtracting Whole Numbers and Money • Fact Families, Part 1 | 1 |
| LESSON 2 | Multiplying Whole Numbers and Money • Dividing Whole Numbers and Money • Fact Families, Part 2 | 6 |
| LESSON 3 | Missing Numbers in Addition • Missing Numbers in Subtraction | 12 |
| LESSON 4 | Missing Numbers in Multiplication • Missing Numbers in Division | 17 |
| LESSON 5 | Order of Operations, Part 1 | 22 |
| LESSON 6 | Fractional Parts | 26 |
| LESSON 7 | Lines, Segments, and Rays • Linear Measure | 30 |
| LESSON 8 | Perimeter | 35 |
| LESSON 9 | The Number Line: Ordering and Comparing | 39 |
| LESSON 10 | Sequences • Scales | 43 |
| INVESTIGATION 1 | Frequency Tables • Histograms • Surveys | 48 |
| LESSON 11 | Problems About Combining • Problems About Separating | 52 |
| LESSON 12 | Place Value Through Trillions • Multistep Problems | 58 |
| LESSON 13 | Problems About Comparing • Elapsed-Time Problems | 63 |
| LESSON 14 | The Number Line: Negative Numbers | 68 |
| LESSON 15 | Problems About Equal Groups | 73 |
| LESSON 16 | Rounding Whole Numbers • Estimating | 77 |
| LESSON 17 | The Number Line: Fractions and Mixed Numbers | 82 |

v

| LESSON 18 | Average • Line Graphs | 88 |
|--------------------|--|-----|
| LESSON 19 | Factors • Prime Numbers | 94 |
| LESSON 20 | Greatest Common Factor (GCF) | 100 |
| INVESTIGATION 2 | Investigating Fractions with Manipulatives | 104 |
| LESSON 21 | Divisibility | 108 |
| LESSON 22 | "Equal Groups" Stories with Fractions | 113 |
| LESSON 23 | Ratio | 119 |
| LESSON 24 | Adding and Subtracting Fractions That Have Common Denominators | 123 |
| LESSON 25 | Writing Division Answers as Mixed Numbers • Multiples | 128 |
| LESSON 26 | Using Manipulatives to Reduce Fractions • Adding and Subtracting Mixed Numbers | 133 |
| LESSON 27 | Measures of a Circle | 138 |
| LESSON 28 | Angles | 142 |
| LESSON 29 | Multiplying Fractions • Reducing Fractions by Dividing by Common Factors | 148 |
| LESSON 30 | Least Common Multiple (LCM) • Reciprocals | 154 |
| INVESTIGATION 3 | Measuring and Drawing Angles with a Protractor | 159 |
| LESSON 31 | Areas of Rectangles | 163 |
| LESSON 32 | Expanded Notation • More on Elapsed Time | 168 |
| LESSON 33 | Writing Percents as Fractions, Part 1 | 174 |
| LESSON 34 | Decimal Place Value | 178 |
| LESSON 35 | Writing Decimal Numbers as Fractions, Part 1 • Reading and Writing Decimal Numbers | 183 |
| LESSON 36 | Subtracting Fractions and Mixed Numbers from Whole Numbers | 188 |
| LESSON 37 | Adding and Subtracting Decimal Numbers | 193 |
| LESSON 38 | Adding and Subtracting Decimal Numbers and Whole Numbers • Squares and Square Roots | 197 |
| LESSON 39 | Multiplying Decimal Numbers | 203 |
| LESSON 40 | Using Zero as a Placeholder • Circle Graphs | 208 |

| INVESTIGATION 4 | Data Collection and Surveys | 213 |
|------------------------|--|-----|
| LESSON 41 | Finding a Percent of a Number | 216 |
| LESSON 42 | Renaming Fractions by Multiplying by 1 | 222 |
| LESSON 43 | Equivalent Division Problems • Missing-Number Problems with Fractions and Decimals | 226 |
| LESSON 44 | Simplifying Decimal Numbers • Comparing Decimal Numbers | 233 |
| LESSON 45 | Dividing a Decimal Number by a Whole Number | 238 |
| LESSON 46 | Writing Decimal Numbers in Expanded Notation • Mentally Multiplying Decimal Numbers by 10 and by 100 | 242 |
| LESSON 47 | Circumference • Pi (π) | 248 |
| LESSON 48 | Subtracting Mixed Numbers with Regrouping, Part 1 | 255 |
| LESSON 49 | Dividing by a Decimal Number | 259 |
| LESSON 50 | Decimal Number Line (Tenths) • Dividing by a Fraction | 264 |
| INVESTIGATION 5 | Displaying Data | 269 |
| LESSON 51 | Rounding Decimal Numbers | 275 |
| LESSON 52 | Mentally Dividing Decimal Numbers by 10 and by 100 | 279 |
| LESSON 53 | Decimals Chart • Simplifying Fractions | 283 |
| LESSON 54 | Reducing by Grouping Factors Equal to 1 • Dividing Fractions | 287 |
| LESSON 55 | Common Denominators, Part 1 | 293 |
| LESSON 56 | Common Denominators, Part 2 | 298 |
| LESSON 57 | Adding and Subtracting Fractions: Three Steps | 303 |
| LESSON 58 | Probability and Chance | 307 |
| LESSON 59 | Adding Mixed Numbers | 314 |
| LESSON 60 | Polygons | 318 |
| INVESTIGATION 6 | Attributes of Geometric Solids | 322 |

| LESSON 61 | Adding Three or More Fractions | 327 |
|--------------------|--|-----|
| LESSON 62 | Writing Mixed Numbers as Improper Fractions | 331 |
| LESSON 63 | Subtracting Mixed Numbers with Regrouping, Part 2 | 337 |
| LESSON 64 | Classifying Quadrilaterals | 341 |
| LESSON 65 | Prime Factorization • Division by Primes • Factor Trees | 346 |
| LESSON 66 | Multiplying Mixed Numbers | 352 |
| LESSON 67 | Using Prime Factorization to Reduce Fractions | 356 |
| LESSON 68 | Dividing Mixed Numbers | 360 |
| LESSON 69 | Lengths of Segments • Complementary and Supplementary Angles | 364 |
| LESSON 70 | Reducing Fractions Before Multiplying | 369 |
| INVESTIGATION 7 | The Coordinate Plane | 374 |
| LESSON 71 | Parallelograms | 379 |
| LESSON 72 | Fractions Chart • Multiplying Three Fractions | 387 |
| LESSON 73 | Exponents • Writing Decimal Numbers as Fractions, Part 2 | 392 |
| LESSON 74 | Writing Fractions as Decimal Numbers | 397 |
| LESSON 75 | Writing Fractions and Decimals as Percents, Part 1 | 401 |
| LESSON 76 | Comparing Fractions by Converting to Decimal Form | 406 |
| LESSON 77 | Finding Unstated Information in Fraction Problems | 410 |
| LESSON 78 | Capacity | 415 |
| LESSON 79 | Area of a Triangle | 419 |
| LESSON 80 | Using Scale Factor to Solve Ratio Problems | 424 |
| INVESTIGATION 8 | Geometric Construction of Bisectors | 429 |
| LESSON 81 | Arithmetic with Units of Measure | 434 |
| LESSON 82 | Volume of a Rectangular Prism | 440 |
| LESSON 83 | Proportions | 445 |

| LESSON 84 | Order of Operations, Part 2 | 450 |
|----------------------------|---|-----|
| LESSON 85 | Using Cross Products to Solve Proportions | 454 |
| LESSON 86 | Area of a Circle | 460 |
| LESSON 87 | Finding Missing Factors | 465 |
| LESSON 88 | Using Proportions to Solve Ratio Problems | 468 |
| LESSON 89 | Estimating Square Roots | 473 |
| LESSON 90 | Measuring Turns | 479 |
| INVESTIGATION | Experimental Probability | 484 |
| 9 | | |
| LESSON 91 | Geometric Formulas | 489 |
| LESSON 92 | Expanded Notation with Exponents Order of Operations with Exponents Powers of Fractions | 494 |
| LESSON 93 | Classifying Triangles | 499 |
| LESSON 94 | Writing Fractions and Decimals as Percents, Part 2 | 503 |
| LESSON 95 | Reducing Units Before Multiplying | 508 |
| LESSON 96 | Functions • Graphing Functions | 512 |
| LESSON 97 | Transversals | 518 |
| LESSON 98 | Sum of the Angle Measures of Triangles and Quadrilaterals | 524 |
| LESSON 99 | Fraction-Decimal-Percent Equivalents | 530 |
| LESSON 100 | Algebraic Addition of Integers | 534 |
| INVESTIGATION 10 | Compound Experiments | 541 |
| LESSON 101 | Ratio Problems Involving Totals | 546 |
| LESSON 102 | Mass and Weight | 551 |
| LESSON 103 | Perimeter of Complex Shapes | 556 |
| LESSON 104 | Algebraic Addition Activity | 561 |
| LESSON 105 | Using Proportions to Solve Percent Problems | 567 |
| LESSON 106 | Two-Step Equations | 572 |
| LESSON 107 | Area of Complex Shapes | 576 |
| LESSON 108 | Transformations | 580 |
| LESSON 109 | Corresponding Parts • Similar Triangles | 585 |

| LESSON 110 | Symmetry | 591 |
|----------------------------|---|-----|
| INVESTIGATION 11 | Scale Drawings and Models | 596 |
| LESSON 111 | Applications Using Division | 601 |
| LESSON 112 | Multiplying and Dividing Integers | 606 |
| LESSON 113 | Adding and Subtracting Mixed Measures • Multiplying by Powers of Ten | 611 |
| LESSON 114 | Unit Multipliers | 616 |
| LESSON 115 | Writing Percents as Fractions, Part 2 | 621 |
| LESSON 116 | Compound Interest | 625 |
| LESSON 117 | Finding a Whole When a Fraction is Known | 632 |
| LESSON 118 | Estimating Area | 637 |
| LESSON 119 | Finding a Whole When a Percent is Known | 642 |
| LESSON 120 | Volume of a Cylinder | 647 |
| INVESTIGATION 12 | Platonic Solids | 651 |
| APPENDIX | | |
| τορίς Α | Roman Numerals | 657 |
| | Supplemental Practice Problems for Selected Lessons | 659 |
| | Glossary | 693 |
| | Index | 725 |