

Everyday Mathematics, Sixth Grade

**Correlations of the TEN UNDERSTANDING MATHEMATICS PLUS Programs
By Neufeld Learning Systems Inc.
February 2005**

Note: a. The Understanding Math PLUS series of programs consist of 10 programs written for Kindergarten to 10th Grade.

The 10 programs are:

- | | |
|---|---|
| Understanding Fractions | Understanding Whole Numbers and Integers |
| Understanding Probability | Understanding Percent |
| Understanding Exponents | Understanding Equations |
| Understanding Algebra | Understanding Graphing |
| Understanding Numeration | |
| Understanding Measurement and Geometry | |

Note: b. The Understanding Numeration software for K to 3 is set up so that the teacher selects items in the following order:

Concept .. from 5 concepts .. Counting, Comparing & Ordering, Place Value, Operations and Problem Solving.

Skill .. chosen from the list of specific learning expectations

Level .. indicates the levels of development for Kindergarten to 3rd grade.

Level	Upper Range of Number
A	10
B	20
C	100
D	1000

Lesson .. 250 lessons are sequenced to build understanding of concepts.

A detailed Lesson Synopsis on the website www.neufeldmath.com to assist the teacher by stating the lesson contents but also by giving lesson suggestions.

Worksheet .. off computer worksheets are selected from the CD by a code.

Note: c. The remaining 9 Understanding Math programs for 4th to 10th grade are set up so that they can be used in a variety of teaching and learning environments ranging from a teacher centered approach with 1 computer to a student centered lab approach. The lessons can also be used in remediation, tutorial, intervention, resource, fast-tracking.

Each topic has:

- ..an interactive concept introduction, usually with a variety of graphic approaches.
- ..a number of particular examples
- ..practice questions with random questions but particular feedback
- ..a topic test with random questions and tracking
- ..off computer worksheets selected from the website .. www.neufeldmath.com

**Curriculum is correlated with Understanding Math programs in the following manner:*
MAT+ (Understanding Math Plus, 4-10) / **Program Title** / **Topic Number & Title** / **Lesson Title**

Unit 1: Collection, Display, and Interpretation of Data

Lesson 1.1 ⇨ INTRODUCTION TO THE *STUDENT REFERENCE BOOK*

Lesson 1.2 ⇨ LINE PLOTS

MAT+ / Understanding Whole Numbers and Integers / Topic 4 – The Meaning of Integers / The Integer Line

Lesson 1.3 ⇨ MEDIAN AND MEAN

MAT+ / Understanding Graphing / Topic 2 – Statistics / Measures of Central Tendency: Introduction, The Mean Average, The Median Average

Lesson 1.4 ⇨ THE *LANDMARK SHARK GAME*

Lesson 1.5 ⇨ BROKEN-LINE GRAPHS

Lesson 1.6 ⇨ BAR GRAPHS

Lesson 1.7 ⇨ STEP GRAPHS

Lesson 1.8 ⇨ THE PERCENT CIRCLE AND CIRCLE GRAPHS

MAT+ / Understanding Graphing / Topic 2 – Statistics / An Introduction: Tally Chart, Pictographs 1 & 2, Bar Graph 1 & 2, Line Graph 1 & 2; Presenting Data: Bar Graph, Line Graph, Circle or Pie Graph

Lesson 1.9 ⇨ USING A GRAPH TO INVESTIGATE PERIMETER AND AREA

MAT+ / Understanding Measurement and Geometry / Topic 2-Perimeter and Area of Polygons / The Graph

Lesson 1.10 ⇨ PERSUASIVE DATA AND GRAPHS

MAT+ / Understanding Graphing / Topic 2 – Statistics / Data – What is it?; Examples of Data: Examples 1 through 6, Summary

Lesson 1.11 ⇨ KITCHEN UNITS OF CAPACITY

Units 2: Operations with Whole Numbers and Decimals

Lesson 2.1 ⇨ ADDITION AND SUBTRACTION OF DECIMALS

MAT+ / Understanding Fractions / Topic 14 – Addition and Subtraction of Decimals / Adding Decimals: Tenths – The Pencil, Examples 1 through 5, Tenths – The Line, Examples 1 through 4, Hundredths – The Town, Examples 1 through 4; Method 1 – Partial Sums, Examples 1 through 6; Method 2 – Columns, Examples 1 through 6; Method 3 – Right to Left, Examples 1 through 6; Subtracting Decimals: Tenths – The Pencil, Examples 1 through 5, Hundredths – The Field, Examples 1 through 4; Method 1 – Right to Left, Examples 1 through 6; Method 2 – Trade First, Examples 1 through 6; Method 3 – Add Up, Examples 1 through 8; Method 4 – Add Up to Zero, Examples 1 & 2

Lesson 2.2 ⇨ MULTIPLICATION OF DECIMALS: PART 1

Lesson 2.3 ⇨ MULTIPLICATION OF DECIMALS: PART 2

Lesson 2.4 ⇨ MULTIPLYING BY POWERS OF 10

MAT+ / Understanding Whole Numbers and Integers / Topic 3 – Multiplying and Dividing Whole Numbers / Multiples of 10, 100, 1000: Patterns in Multiplication by 10, Patterns in Multiplication by 100, Patterns in Multiplication by 1000, Examples 1,2,3

Lesson 2.5 ⇨ ANALYZING LARGE NUMBERS

MAT+ / Understanding Whole Numbers and Integers / Topic 1 – The Meaning of Whole Numbers CAN/US / Place Value to 999 999: Examples 1 through 5, The Number Line – Examples 1 & 2; Millions: Examples 1 through 4, The Number Line; Billions: Example 1; Comparing Large Numbers: Examples 1 through 4; Ordering Large Numbers: Examples 1 through 4; Rounding Large Numbers: Examples 1 through 5; Practice Questions; Topic Test

Lesson 2.6 ⇨ READING AND WRITING SMALL NUMBERS

MAT+ / Understanding Exponents / Topic 4 – Scientific Notation / Scientific Notation for Small Numbers: Introduction, Chart, The Steps; Examples: 1 through 4

Lesson 2.7 ⇨ EXPONENTIAL NOTATION AND THE POWER KEY ON A CALCULATOR

MAT+ / Understanding Exponents / Topic 2 – Exponents in Formulas / The Power Key: An Introduction, Power with a Positive Base, Power with a Negative Base, Adding Two Powers – Long/Short Way

Lesson 2.8 ⇨ SCIENTIFIC NOTATION FOR LARGE AND SMALL NUMBERS

Lesson 2.9 ⇨ SCIENTIFIC NOTATION ON A CALCULATOR

MAT+ / Understanding Exponents / Topic 4 – Scientific Notation / Why Use Scientific Notation?; Scientific Notation for Large Numbers: Introduction, Chart, The Rule, The Steps; Scientific Notation for Small Numbers: Introduction, Chart, The Steps; Examples: 1 through 4; Practice Questions

Lesson 2.10 ⇨ DIVISION OF WHOLE NUMBERS

MAT+ / Understanding Whole Numbers and Integers / Topic 3 – Multiplying and Dividing Whole Numbers / Divide by a Single Digit Divisor: Fair Sharing Examples 1& 1, Questions 1 through 6; Whole Numbers Around Us: Examples 1 through 11

Lesson 2.11 ⇨ DIVISION OF DECIMALS

Unit 3: Variables, Formulas, and Graphs

Lesson 3.1 ⇨ USING VARIABLES TO DESCRIBE NUMBER PATTERNS

MAT+ / Understanding Algebra / Topic 1 – Introduction to Algebraic Thinking / Trick #1 – Whole Numbers; Trick #2 – Whole Numbers; Trick #3 – Whole Numbers; Trick #1 – Integers; Trick #2 – Integers; Trick #3 – Integers; Pictures to Words – Whole Numbers; Pictures to Words – Integers; Function Machine; Summary; Practice Questions; Topic Test

MAT+ / Understanding Algebra / Topic 2 – Tiles and Algebra / Pictures to Words to Algebraic Expressions; Algebraic Expressions to Tiles; Combining Opposites: Singles, Bars, Squares; Summary; Practice Questions

Lesson 3.2 ⇨ GENERAL PATTERNS (TWO VARIABLES)

Lesson 3.3 ⇨ ALGEBRAIC EXPRESSIONS

Lesson 3.4 ⇨ FORMULAS

MAT+ / Understanding Algebra / Topic 3 – Patterns, Patterns, Patterns / Patterns to Formulas: Examples 1,2,3

Lesson 3.5 ⇨ FORMULAS, TABLES, AND GRAPHS: PART 1

MAT+ / Understanding Algebra / Topic 4 – Patterns, Formulas, Substitution / Introduction – Math is Patterns; Expressions, Terms, Variables; Patterns to Formulas: Examples 1,2,3

Lesson 3.6 ⇨ A SCIENCE EXPERIMENT

Lesson 3.7 ⇨ VARIABLES AND FORMULAS IN SPREADSHEETS: PART 1

Lesson 3.8 ⇨ VARIABLES AND FORMULAS IN SPREADSHEETS: PART 2

MAT+ / Understanding Algebra / Topic 4 – Patterns, Formulas, Substitution
/ Introduction – Math is Patterns; Expressions, Terms, Variables; Patterns to Formulas: Examples 1,2,3

Lesson 3.9 ⇨ READING AND DRAWING GRAPHS

MAT+ / Understanding Graphing / Topic 1 – Reading and Sketching Graphs
/ In This Topic; Graphs without a Scale: Concept – Age and Weight, Examples 1 through 13; Graphs with a Scale: Concept – Distance and Time, Examples 1 through 14; Discrete Data; Continuous Data; Extrapolation; Practice Questions; Topic Test

Lesson 3.10 ⇨ FORMULAS, TABLES, AND GRAPHS: PART 2

MAT+ / Understanding Algebra / Topic 4 – Patterns, Formulas, Substitution
/ Introduction – Math is Patterns; Expressions, Terms, Variables; Patterns to Formulas: Examples 1,2,3; Substitution is – Math Scrabble; Substitution Examples; Practice Questions; Topic Test

Unit 4: Rational Number Uses and Operations

Lesson 4.1 ⇨ EQUIVALENT FRACTIONS

MAT+ / Understanding Fractions / Topic 3 – Equivalent Fractions /
Introduction: Square, Triangle; Pattern Blocks: Hexagon 1,2; Fraction Strips: Concepts 1,2; The Clock: Introduction 1,2, Examples; Equivalent Fractions on a Number Line; Comparison of Fractions; Equivalent Fractions in a Multiplication Table; One; Equivalent Fractions – The Pattern; Example Questions; Greatest Common Factor; Simplifying Fractions; Memory Game; Practice Questions; Topic Test

Lesson 4.2 ⇨ COMPARING FRACTIONS

MAT+ / Understanding Fractions / Topic 3 – Equivalent Fractions /
Comparison of Fractions

Lesson 4.3 ⇨ ADDING AND SUBTRACTING FRACTIONS

MAT+ / Understanding Fractions / Topic 8 – Adding Fractions / Pattern Blocks; Fraction Strips; Percent Strips; Decimal Strips; Adding Fractions on a Number Line; Word Problems

MAT+ / Understanding Fractions / Topic 9 - Subtracting Fractions / Pattern Blocks; The Clock; Fraction Strips; Percent Strips; Decimal Strips; Subtracting Fractions on a Number Line; Word Problems

Lesson 4.4 ⇨ ADDING AND SUBTRACTING MIXED NUMBERS WITH LIKE DENOMINATORS

Lesson 4.5 ⇨ ADDING AND SUBTRACTING MIXED NUMBERS WITH UNLIKE DENOMINATORS

MAT+ / Understanding Fractions / Topic 13 – Improper Fractions and Mixed Numbers / Adding Mixed Numbers

Lesson 4.6 ⇨ FRACTION MULTIPLICATION

MAT+ / Understanding Fractions / Topic 10 - Multiplying Fractions / Word Problems; A Summary; The Meaning of “OF”; Order in Multiplying; Multiplying Fraction with Large Numbers; Practice Questions

Lesson 4.7 ⇨ MULTIPLICATION OF MIXED NUMBERS

Lesson 4.8 ⇨ FRACTIONS, DECIMALS, AND PERCENTS

MAT+ / Understanding Fractions / Topic 15 – Fractions and Decimals / Compare Fractions Methods 1 & 2; Fraction to Decimals; Repeating Decimals: An Example, How to Write Them; Decimals to Fractions: Place Value, Examples 1 through 5; Rounding; My Day; Fraction to Decimal Division Table; Practice Questions; Topic Test

MAT+ / Understanding Fractions / Topic 6 – Percent, Fractions, Decimals / Expressing a Percent as a Fraction: Introduction with/without Graphics; Expressing a Fraction in Simplest Form: Greatest Common Factor, Simplifying Fractions, The Watering Can; Expressing a Percent as a Decimal: Introduction, Examples 1,2,3; Number Line #1; Decimal Strips: Concepts 1,2,3; Expressing a Decimal as a Percent: An Example, Methods 1 & 2, Lightning Example; Number Line #2; Chart; Practice Questions; Topic Test

Lesson 4.9 ⇨ MORE DIFFICULT CONVERSIONS

Lesson 4.10 ⇨ GRAPHING GARBAGE

Lesson 4.11 ⇨ PERCENT OF A NUMBER

MAT+ / Understanding Percent / Topic 1 – The Meaning of Percent / In This Topic; Percent in the News; Percent Means; Introduction; Examples 1 through 5; Making Sense of Percent 1 – 5; Estimating Percent; Practice Questions; Topic Test

MAT+ / Understanding Percent / Topic 5 – Percent of a Number / The Concept: Examples 1 through 6; The Bouncing Ball; Grades; Practice Questions

Unit 5: Geometry: Congruence, Constructions, and Parallel Lines

Lesson 5.1 ⇨ MEASURING AND DRAWING ANGLES

Lesson 5.2 ⇨ REASONING WITH ANGLE MEASURES

MAT+ / Understanding Measurement and Geometry / Topic 5 – Angles and Their Measure / In This Topic; Lines and Rays; Angles – An Introduction; the Degree; Classifying Angles: Classifications, Memory Game; Measuring Angles; Practice Questions; Topic Test

Lesson 5.3 ⇨ USING A PROTRACTOR TO MAKE CIRCLE GRAPHS

MAT+ / Understanding Graphing / Topic 2 – Statistics / Presenting Data: Circle or Pie Graphs

Lesson 5.4 ⇨ COORDINATE GEOMETRY

MAT+ / Understanding Graphing / Topic 3 – Points on a Grid / Ordered Pairs: Axis, Quadrants, Find a Point, Order in Important, Examples; Shapes, Battleship

Lesson 5.5 ⇨ ISOMETRY TRANSFORMATIONS

MAT+ / Understanding Graphing / Topic 4 – Transformations / In This Topic; What is a Transformation?; Introduction to Common Transformations; Translations – An Introduction, Slide #1, #2, #3, #4; Reflections – An Introduction, Flip #1, #2, #3, #4; Rotations – An Introduction, Turn #1, #2, #3, #4; The Transformation Machine: Examples 1 through 5; Lines of Symmetry – An Introduction: Introduction, Examples 1 through 4; Symmetry Match: Puzzle 1,2; Tessellations: Introduction, Examples 1 through 5; Tangrams: Introduction, Examples 1,2,3; Translations: Object to Image, We Say, We Write, Reflection Mapping Rule, Examples 1,2,3; Rotations: Object to Image, We Say, We Write, Rotation Mapping Rule, Examples 1,2,3; Dilatations: Object to Image, We Say, We Write, Rotation Mapping Rule, Examples 1,2; Examples 1 & 2; Practice Questions; Topic Test

Lesson 5.6 ⇨ CONGRUENT FIGURES

Lesson 5.7 ⇨ COMPASS-AND-STRAIGHTEDGE CONSTRUCTIONS 1

Lesson 5.8 ⇨ COMPASS-AND-STRAIGHTEDGE CONSTRUCTIONS 2

MAT+ / Understanding Measurement and Geometry / Topic 7 – Constructions / Before you Begin; In This Topic; Perpendicular Bisector; Circumcircle; Centroid; Angle Bisector; Incircle; Perpendicular from Point on Line; Perpendicular from Point off the Line; Orthocenter

Lesson 5.9 ⇨ PARALLEL LINES AND ANGLE RELATIONSHIPS

MAT+ / Understanding Measurement and Geometry / Topic 6 – Angles and Polygons / Parallel Lines; Example with Parallel Lines

Lesson 5.10 ⇨ PARALLELOGRAMS

Unit 6: Number Systems and Algebra Concepts

Lesson 6.1 ⇨ MULTIPLICATION OF FRACTIONS AND MIXED NUMBERS

MAT+ / Understanding Fractions / Topic 10 - Multiplying Fractions / Word Problems; A Summary; The Meaning of “OF”; Order in Multiplying; Multiplying Fraction with Large Numbers; Practice Questions

Lesson 6.2 ⇨ DIVISION OF FRACTIONS AND MIXED NUMBERS

MAT+ / Understanding Fractions / Topic 11 – Dividing Fractions / Understanding Division; Examples of Division; Patterns from Examples; Another Explanation; Examples without Diagrams; Practice Questions

MAT+ / Understanding Fractions / Topic 13 – Improper Fractions and Mixed Numbers / Dividing Mixed Numbers

Lesson 6.3 ⇨ REVIEW: ADDITION AND SUBTRACTION OF POSITIVE AND NEGATIVE NUMBERS

MAT+ / Understanding Whole Numbers and Integers / Topic 5 – Adding Integers / Writing Positive Integers: Examples 1,2,3; Word Problems; Practice Questions

MAT+ / Understanding Whole Numbers and Integers / Topic 6 – Subtraction of Integers / Example Questions 1 through 6; Going for a Walk; Word Problems; Practice Questions

Lesson 6.4 ⇨ MULTIPLICATION AND DIVISION OF POSITIVE AND NEGATIVE NUMBERS

MAT+ / Understanding Whole Numbers and Integers / Topic 7 – Multiplying Integers / Order in Multiplication; Negative X Negative – Note Patterns; Examples Questions 1 through 5; Word Problems; Practice Questions

MAT+ / Understanding Whole Numbers and Integers / Topic 8 –Dividing Integers / Division to Multiplication; The Division Table: Instructions, Patterns, Practice; The Inverse of Multiplication: Examples 1 & 2; Summaries 1 & 2; Example Questions 1 through 4; Word Problems: Casino, Plant, Graham’s Walk; Practice Questions; Topic Test

Lesson 6.5 ⇨ THE PROPERTIES OF NUMBER SYSTEMS

Lesson 6.6 ⇨ ORDER OF OPERATIONS

MAT+ / Understanding Whole Numbers and Integers / Topic 9 – Order of Operations / Order in Addition: Trials 1,2, Conclusion, Examples 1 & 2; Order in Multiplication: Trials 1,2, Conclusion, Examples 1 & 2; Why Use Order of Operations?: BEDMAS; Example Questions 1 through 10

Lesson 6.7 ⇨ REVIEW: NUMBER SENTENCES

MAT+ / Understanding Algebra / Topic 1 – Introduction to Algebraic Thinking / Pictures to Words – Whole Numbers; Pictures to Words – Integers; Function Machine; Summary

MAT+ / Understanding Algebra / Topic 2 – Tiles and Algebra / Pictures to Words to Algebraic Expressions: examples 1 & 2; Algebraic Expression to Tiles: Examples 1,2,3; Combining Opposites: Singles, Bars, Squares; Summary

Lesson 6.8 ⇨ SOLVING SIMPLE EQUATIONS

Lesson 6.9 ⇨ REVIEW: PAN-BALANCE PROBLEMS

Lesson 6.10 ⇨ PAN-BALANCE EQUATIONS

Lesson 6.11 ⇨ THE EQUIVALENT-EQUATIONS METHOD OF SOLVING EQUATIONS

MAT+ / Understanding Equations / Topic 1 – Tiles, Balances, and Equations / Definitions: Introduction, Summary Parts 1,2; The Meaning of “Solving and Equations”; Solve by Systematic Trials; Recall Tile Concepts; Balances –An Introduction; Tiles, Balances, and Equations; Practice Questions; Topic Test

MAT+ / Understanding Equations / Topic 2 – Solving One-Step Equations / Our Problem; Concepts – Examples with Tiles 1 through 4; Concepts – Examples without Tiles; Practice Questions; Topic Test

MAT+ / Understanding Equations / Topic 3 – Solving Two-Step Equations / Our Problem; Concepts – Examples with Tiles 1 through 5; Concepts – Examples without Tiles 1 through 6; Practice Questions; Topic Test

Lesson 6.12 ⇨ INEQUALITIES

MAT+ / Understanding Equations / Topic 7 – Solving Inequalities /
Comparing Integers: The Integer Line, Examples 1 through 4, Greater Than or Less Than; Inequalities: What are They?; Inequality vs. Equations, Summary of Relationships; Inequality on the Number Line: Examples 1 through 4

Unit 7: Probability and Discrete Mathematics

Lesson 7.1 ⇨ THE PROBABILITY OF EQUALLY LIKELY OUTCOMES

MAT+ / Understanding Probability / Topic 2 – What’s the Chance? /
Probability: What is it? Introduction 1, Introduction 2; Probability Examples 1 through 12; The Probability Scale: Examples, Summary, Follow Up, Soccer Example; Experimental Probability: Introduction; Examples 1 & 2; Practice Questions

Lesson 7.2 ⇨ GENERATING RANDOM NUMBERS

Lesson 7.3 ⇨ A RANDOM-NUMBER SIMULATION

Lesson 7.4 ⇨ TREE DIAGRAMS

Lesson 7.5 ⇨ USING TREE DIAGRAMS TO CALCULATE PROBABILITIES

MAT+ / Understanding Probability / Topic 1 – What’s Possible? / Tree Diagrams: Meals, Socks

Lesson 7.6 ⇨ VENN DIAGRAMS

Lesson 7.7 ⇨ FAIR AND UNFAIR GAMES

MAT+ / Understanding Probability / Topic 2 – What’s the Chance? /
Probability: What is it? Introduction 1, Introduction 2; Probability Examples 1 through 12; The Probability Scale: Examples, Summary, Follow Up, Soccer Example; Experimental Probability: Introduction; Examples 1 & 2; Practice Questions

Lesson 7.8 ⇨ STRATEGIES FOR MULTIPLE-CHOICE TESTS

Unit 8: Rates and Ratios

Lesson 8.1 ⇨ RATES, RATE TABLES, AND UNIT RATES

Lesson 8.2 ⇨ SOLVING RATE PROBLEMS WITH PROPORTIONS

Lesson 8.3 ⇨ SOLVING PROPORTIONS BY CROSS MULTIPLICATION

MAT+ / Understanding Percent / Topic 4 – Ratios and Proportions / What is a Proportion?; Proportions: Examples 1 through 7; Ratios and Your Body; Practice Questions; Topic Test

Lesson 8.4 ⇒ CALORIE USE

Lesson 8.5 ⇒ USING NUTRITION INFORMATION

Lesson 8.6 ⇒ RATIOS

MAT+ / Understanding Percent / Topic 4 – Ratios and Proportions / Ratios in the News: What is a Ratio?; Writing Ratios: Concept. Examples 1 through 4

Lesson 8.7 ⇒ USING PROPORTIONS TO SOLVE PERCENT PROBLEMS

MAT+ / Understanding Percent / Topic 6 – Problems Involving Percent / Steps in Solving Problems; Finding the Whole: Recall Proportion, School Population: Method 1 – Using Proportions, School Population: Method 2, Grades Problem: Method 1 – Using Proportions, Grades Problem: Method 2, Bike Sale: Method 1 – Using Proportions, Bike Sale: Method 2; Steps in Solving Problems; Finding the Whole; Finding the Percent; Percent of a Number; Percents Greater than 100 %; Percents less than 1 %; Mental Calculation; Percent Change; Practice Questions

Lesson 8.8 ⇒ CALCULATING THE FAT CONTENT OF FOODS

Lesson 8.9 ⇒ USING RATIOS TO DESCRIBE SIZE CHANGES

Lesson 8.10 ⇒ SIMILAR POLYGONS

Lesson 8.11 ⇒ COMPARING RATIOS

Lesson 8.12 ⇒ THE GOLDEN RATIOS

MAT+ / Understanding Percent / Topic 4 – Ratios and Proportions / Ratios in the News: What is a Ratio?; Writing Ratios: Concept. Examples 1 through 4; Ratios and Your Body: Golden Ratio, Measuring your Body; Practice Questions; Topic Test

Unit 9: More about Variables, Formulas, and Graphs

Lesson 9.1 ⇒ AREA MODELS FOR THE DISTRIBUTIVE PROPERTY

Lesson 9.2 ⇒ THE DISTRIBUTIVE PROPERTY

Lesson 9.3 ⇨ SIMPLIFYING EXPRESSIONS: COMBINING LIKE TERMS
Lesson 9.4 ⇨ SIMPLIFYING EXPRESSIONS: REMOVING PARENTHESES

MAT+ / Understanding Algebra / Topic 5 – Adding Expressions / Our Problem; Adding Expressions with X & Y Tiles; Adding Expressions with X-squared Tiles; Adding Expressions without Tiles; Practice Questions: With/Without Tiles

MAT+ / Understanding Algebra / Topic 6 – Subtracting Expressions / Our Problem; Subtracting Expressions with X & Y Tiles; Subtracting Expressions with X-Squared Tiles; Subtracting Expressions without Tiles; Practice Questions: With/Without Tiles

Lesson 9.5 ⇨ SIMPLIFYING AND SOLVING EQUATIONS

MAT+ / Understanding Equations / Topic 4 – Solving Multi-step Equations / Our Problem; Concepts – Examples with Tiles; Concepts – Examples without Tiles; Summary; Literal Equations: What are They? How do you Solve Them? Why Solve Literal Equations?

Lesson 9.6 ⇨ USING EQUATIONS TO SOLVE PROBLEMS

MAT+ / Understanding Equations / Topic 5 – Problem Solving / Words and Symbols; The Translation Machine: Examples 1 through 4; The Trick Machine; Area of Walls; Chemistry; Pool Puzzler; Perimeter Problem with Diagram

Lesson 9.7 ⇨ COMPUTER SPREADSHEETS

Lesson 9.8 ⇨ AREA FORMULAS WITH APPLICATIONS

MAT+ / Understanding Equations / Topic 5 – Problem Solving / Area of Walls

Lesson 9.9 ⇨ VOLUME FORMULAS WITH APPLICATIONS

Lesson 9.10 ⇨ SOLVING EQUATIONS BY TRIAL AND ERROR

Lesson 9.11 ⇨ FORMULA EQUATIONS

MAT+ / Understanding Equations / Topic 4 – Solving Multi-step Equations / Our Problem; Concepts – Examples with Tiles; Concepts – Examples without Tiles; Summary; Literal Equations: What are They? How do you Solve Them? Why Solve Literal Equations?

Lesson 9.12 ⇨ THE PYTHAGOREAN THEOREM

MAT+ / Understanding Exponents / Topic 6 – Pythagorean Theorem / The Right Triangle; Math or Magic?; Squares on a Grid; Squares on the Sides of a Right Triangle; The Pythagorean Theorem; Examples Questions; Practice Questions

Lesson 9.13 ⇔ INDIRECT MEASUREMENT PROBLEMS

Unit 10: Geometry Topics

Lesson 10.1 ⇔ SEMIREGULAR TESSELLATIONS

Lesson 10.2 ⇔ ESCHER-TYPE TRANSLATION TESSELLATIONS

MAT+ / Understanding Graphing / Topic 4 – Transformations / Tessellations: Introduction, Examples 1 through 5

Lesson 10.3 ⇔ ROTATION SYMMETRY

MAT+ / Understanding Graphing / Topic 4 – Transformations / Rotations: Object to Image, We Say, We Write, Rotation Mapping Rule, Examples 1,2,3

Lesson 10.4 ⇔ CROSS SECTIONS OF CLAY SOLIDS

Lesson 10.5 ⇔ INTRODUCTION TO TOPOLOGY

Lesson 10.6 ⇔ MÖBIUS STRIPS