

Math Content: Grade 6

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Lesson 1: Number Concepts Part I

Unit 1.1 Number Constructions

Unit 1.2 Compare and Order Numbers

Unit 1.3 Introduction to Exponents

Unit 1.4 Perfect squares and Their Roots

Unit 1.5 Patterns, Sequences, and Terms

Unit 1.6 Math challenges

Lesson 2: Number Concepts Part II

Unit 2.1 Introducing Roman Numerals

Unit 2.2 Introduction to Decimals

Unit 2.3 Special Decimal Numbers

Unit 2.4 OrderDecimals

Unit 2.5 Problem Solving: Make an Organized List

Unit 2.6 Math Challenges

Lesson 3: Introduction to Algebra

Unit 3.1 Writing Variable Expressions

Unit 3.2 Operations Properties

Unit 3.3 Order of Operations

Unit 3.4 Distributive Property

Unit 3.5 Math Challenges

Lesson 4: Steps toward Algebra

Unit 4.1 Step toward Algebra: Mental Math

Unit 4.2 Step toward Algebra: Evaluating Expressions

Unit 4.3 Step toward Algebra: Using Expressions to Describe Patterns

Unit 4.4 Problem Solving by Making a Table

Unit 4.5 Math Challenges

Review of Lesson 1, 2, 3, and 4

Lesson 5: Decimal Arithmetic

Unit 5.1 Estimating Decimals, Sums and Differences

- Unit 5.2 Decimal Arithmetic: Adding and Subtracting
- Unit 5.3 Decimal Arithmetic: Estimate Products and Quotients
- Unit 5.4 Decimal Arithmetic: Multiplying Decimals
- Unit 5.5 Mixed Problem Solving
- Unit 5.6 Math Challenges

Lesson 6: More Advanced Decimal Concepts

- Unit 6.1 Dividing aDecimal Number by a Whole Number
- Unit 6.2 Dividing a Whole Number by a Decimal Number
- Unit 6.3 Dividing Two Decimals
- Unit 6.4 Evaluating Decimal Expressions
- Unit 6.5 Working with Scientific Notations
- Unit 6.6 Solving Multistep Problems
- Unit 6.7 Math Challenges

Lesson 7: Steps toward Algebra: Solving Equations

- Unit 7.1 Step toward Algebra: Properties of Equality
- Unit 7.2 Solving Equations Using the Addition Property of Equalities
- Unit 7.3 Solving Equations Using the Subtraction Property of Equalities
- Unit 7.4 Solving Equations Using the Division Property of Equalities
- Unit 7.5 Solving Equations Using the Multiplication Property of Equalities
- Unit 7.6 Problems Solving: Draw a Picture to Assist in Writing the Equation
- Unit 7.7 Math Challenges

Lesson 8: Introduction to Fraction Concepts

- Unit 8.1 Factors and Multiples
- Unit 8.2 Rules of Divisibility
- Unit 8.3 Finding Primes Using Prime Factorization
- Unit 8.4 Greatest Common Factor (GCF)
- Unit 8.5 Introduction to Fractions
- Unit 8.6 Equivalent Fractions
- Unit 8.7 Simplifying Fractions
- Unit 8.8 Using Conjectures
- Unit 8.9 Math Challenges

Review of Lesson 5, 6, 7, and 8

Lesson 9: Number types

- Unit 9.1 Relationship between Fractions and Division
- Unit 9.2 Convert between Fractions and Decimals

- Unit 9.3 Convert between Mixed Number and Improper Fractions
- Unit 9.4 Using Decimals with Fractions and Mixed Numbers
- Unit 9.5 Problem Solving: Drawing Figures
- Unit 9.6 Math Challenges

Lesson 10: Arithmetic of Fractions and Mixed Numbers Part I

- Unit 10.1 Adding and Subtracting Fractions with Like Denominators
- Unit 10.2 Least Common Multiple (LCM)
- Unit 10.3 Adding and Subtracting Fractions with Unlike Denominators
- Unit 10.4 Estimating Sums and Differences of Mixed Numbers
- Unit 10.5 Finding Sums of Mixed Numbers
- Unit 10.6 Finding Differences between Mixed Numbers
- Unit 10.7 Solving Equations Involving Addition and Subtraction of Fractions
- Unit 10.8 Problem Solving by Making a Table
- Unit 10.9 Math Challenges

Lesson 11: Arithmetic of Fractions and Mixed Numbers Part II

- Unit 11.1 Multiplying Fraction and Integers
- Unit 11.2 Estimating Products of Mixed Numbers and Fractions
- Unit 11.3 Multiplying Fractions
- Unit 11.4 Multiplying Mixed Numbers
- Unit 11.5 Solving fraction Equations Using Multiplication
- Unit 11.6 Solving Multistep Problems
- Unit 11.7 Math Challenges

Lesson 12: Arithmetic of Fractions and Mixed Numbers Part III

- Unit 12.1 Understanding Fraction Division
- Unit 12.2 Dividing a Whole Number by a Fraction
- Unit 12.3 Dividing Fractions
- Unit 12.4 Estimating Quotients
- Unit 12.5 Mixed Number Division
- Unit 12.6 Solving Fraction Equations Using Division
- Unit 12.7 Problem Solving: Look for a Pattern
- Unit 12.8 Math Challenges

Review of Lesson 9, 10, 11, and 12

Lesson 13: Counting Numbers (Z) Part I

- Unit 13.1 Understanding Integers (Z) Using a Number Line
- Unit 13.2 Relationship between Integers
- Unit 13.3 Relationship between Rational Numbers

- Unit 13.4 Adding Integers Using a Number Line
- Unit 13.5 Subtracting Integers Using a Number Line
- Unit 13.6 Adding and Subtracting Integers Using Tables
- Unit 13.7 Math Challenges

Lesson 14: Counting Numbers (Z) Part II

- Unit 14.1 Integer Multiplication
- Unit 14.2 Integer Division
- Unit 14.3 Steps toward Algebra: Solving Integer Equations
- Unit 14.4 Steps toward Algebra: Notating and Graphing Points on a Coordinate Grid
- Unit 14.5 Finding Rules from Tables Using Multiplication and / or Division of Integers
- Unit 14.6 Working Backward to Solve Problems
- Unit 14.7 Math Challenges

Lesson 15: Two-Dimensional Figures Part I

- Unit 15.1 Geometry: Points, Lines, and Planes
- Unit 15.2 Geometry: Working with Pairs of Line
- Unit 15.3 Geometry: Determining Types of Angles
- Unit 15.4 Geometry: Working with Pairs of Angles
- Unit 15.5 Geometry: Classifying Triangles
- Unit 15.6 Geometry: Types of Quadrilaterals
- Unit 15.7 Geometry: Part of Circle
- Unit 15.8 Math Challenges

Lesson 16: Two-Dimensional Figures Part II

- Unit 16.1 Geometry: Polygons
- Unit 16.2 Geometric Patterns
- Unit 16.3 Geometry: Transformation
- Unit 16.4 Geometry: Congruence
- Unit 16.5 Geometry: Symmetry
- Unit 16.6 Problem Solving: Make a Table and Look for a Pattern
- Unit 16.7 Math Challenges

Review of Lesson 13, 14, 15, and 16

Lesson 17: Ratios, Rates, and Proportions

- Unit 17.1 Ratios
- Unit 17.2 Proportions
- Unit 17.3 Rates
- Unit 17.4 Rate Comparison
- Unit 17.5 Distance = Rate \times Time

Unit 17.6 Problem Solving: Sketch a Picture
Unit 17.7 Math Challenges

Lesson 18: Solving Proportions

Unit 18.1 Working with Ratio Tables
Unit 18.2 Working with Unit Rates
Unit 18.3 Strategies for Solving Proportions
Unit 18.4 Working with Scale Drawings and Maps
Unit 18.5 Problem Solving: Math Explanations
Unit 18.6 Math Challenges

Lesson 19: Working with Percents

Unit 19.1 Working with Percents
Unit 19.2 Parts of a Whole
Unit 19.3 Special Percents
Unit 19.4 Estimating Percents
Unit 19.5 Find the Percent of a Number
Unit 19.6 Math Challenges

Lesson 20: Solving Percentage Problems

Unit 20.1 Equations and Their Solutions
Unit 20.2 Unitary Method
Unit 20.3 Profit and Loss
Unit 20.4 Tips, Taxes, and Discount
Unit 20.5 Simple Interest
Unit 20.6 Problem Solving: Reasonableness
Unit 20.7 Math Challenges

Review of Lesson 17, 18, 19, and 20

Lesson 21: Working with Equations and Graphs

Unit 21.1 Solving Two-Step Equations
Unit 21.2 Use Patterns/Rules to Solve Equations
Unit 21.3 Use Patterns/Rule to Solve Problems
Unit 21.4 Graphs Linear Equations
Unit 21.5 Graphing Two-Step Equations
Unit 21.6 Identifying and Interpreting Functions
Unit 21.7 Problem Solving: Separating into Part
Unit 21.8 Math Challenges

Lesson 22: Measurement

- Unit 22.1 Converting Customary Measures
- Unit 22.2 Converting Metric Measures
- Unit 22.3 Units of Measure and Precision
- Unit 22.4 Relating Customary and Metric Measures
- Unit 22.5 Elapsed Time
- Unit 22.6 Problem Solving: Measurements
- Unit 22.7 Math Challenges

Lesson 23: Two-Dimensional Measurement Formulae

- Unit 23.1 Perimeter
- Unit 23.2 Areas of Rectangles Based Irregular Figures
- Unit 23.3 Areas of Common Plane Figures
- Unit 23.4 Circumference of a Circle
- Unit 23.5 Area of a Circle
- Unit 23.6 Problem Solving Using Objects
- Unit 23.7 Math Challenges

Lesson 24: Three-Dimensional Measurement Formulae

- Unit 24.1 Three Dimensional Figures
- Unit 24.2 Surface Area (SA)
- Unit 24.3 Volumes of Rectangular Prisms
- Unit 24.4 Volumes of Cylinders and Triangular Prisms
- Unit 24.5 Problem Solving Using UnitCubes
- Unit 24.6 Math Challenges

Review of Lesson 21, 22, 23, and 24

Lesson 25: Graphs and Data

- Unit 25.1 Making and Interpreting Line and Bar Graphs
- Unit 25.2 Drawing and Interpreting Circle Graphs
- Unit 25.3 Compare Line and Circle Graphs
- Unit 25.4 Problem Solving by Building aGraph
- Unit 25.5 Misleading Graphs
- Unit 25.6 Building Frequency Tables and Histograms
- Unit 25.7 Math Challenges

Lesson 26: Introduction to Statistics

- Unit 26.1 Measures of Central Tendency and the Range
- Unit 26.2 Steam-and-Leaf Plots
- Unit 26.3 Appropriate Use of Statistical Measures

Unit 26.4 Samples and Surveys
Unit 26.5 Using Statistics to Draw Conclusions
Unit 26.6 Problem Solving: Try, Check, and Revise
Unit 26.7 Math Challenges

Lesson 27: Probability

Unit 27.1 Possible Outcomes
Unit 27.2 Outcomes Arrangement
Unit 27.3 Probability
Unit 27.4 Types of Probability
Unit 27.5 Types of Events
Unit 27.6 Problem Solving: Make an Organized List
Unit 27.7 Math Challenges

Review of Lesson 1 to 14

Review of Lesson 15 to 27