ShillerMath Kit II Concept list

Lesson Book 4

Absolute values
American vs. Metric systems
Averages
Combinatorics
Commutativity
Deduction
Division
Equations
Estimation
Geometry: Etymology, lines, polygons, triangles, rectangles, perimeter, area
Integers
Logic
Long multiplication
Maps
Measures: Liquid volume, height, weight, and heat
Money change and arithmetic
Natural numbers

Negative numbers
Number lines
Operations and operands
Pattern recognition
Percentages
Plotting points
Powers of ten; exponents
Problem solving methods
Roman numerals
Rounding
Rounding
Sequences
Sets
Speaking three- and four-digit numbers
The Distributive Law
Time (seconds, minutes, hours, fractional)
Verbal problem solving
Writing numbers

Lesson Book 5

2-D Geometry: Using the protractor, radius, angles, drawing
3-D Geometry: Cuboids, volume, vertex and vertices; sides and faces, edges
Absolute value
Addition: Estimation, large numbers
Averages
Bar charts
Calculation shortcuts
Combinatorics
Compass directions
Composite numbers
Data: Charts, Series, Median, Mode, Averages
Decimal numbers
Divisors
Equation writing
Factors and Factor diagrams
Functions
Geometry: Lines, segments, rays, diameters, chords
Graphing

Inequalities
Laws: Associative, Commutative, Distributive
Long division
Long multiplication
Magic squares
Math mysteries
Measures: Temperature, time
Mental math
Modular numbers
Number puzzles
Number theory
Odometer
Patterns
Playing cards
Powers of ten
Prime numbers
Probability
Problem solving
Rounding
Scaling
Sequences

ShillerMath Kit II Concept list

Sets: Venn Diagrams, unions, intersects, set multiplication
Solving for the unknown

Sorting zip codes
Train schedules
Using the calculator

Lesson Book 6

2-D Geometry: Quadrilaterals, Diagonals and intersections, Area of triangles, rectangles, and circles, Maps, Triangle congruence, Line segment notation, Kites, Collinear points and triangles, Angle bisection using the drawing compass, Equidistant points, Planes, Circles and spheres, Triangle and line construction, Drawing angles, Sum of the angles in a triangle, Directions using angles, Arcs, Circle circumference and π, Center of a square
3-D Geometry: Cube and other views, Concave and convex solids, Vertex angles, Surface area, Shape Nets, Volume, Mass, Degrees, Shape equivalence
Accounting: Assets, Liabilities and net worth, Balance Sheet
Addition: Decimals
Axis and line symmetry
Bar graphs and percentages
Bases
Combinations and permutations
Concave vs. convex
Curve length estimation
Decimal numbers
Direction
Domain and range
Equations: Sides, addition, simultaneous
Estimation
Euclid's algorithm
Factors
Geometric proofs
Graphs: Functions, Graphing $y=x^2$, Factors, Plotting points with negative coordinates, Intercepts, Curves, Plotting points
Greatest common divisor

Hypotenuse
Line symmetry
Linear algebra
Linear scales
Measuring a circle's circumference
Money and decimals
Negative numbers: Addition, subtraction, multiplication
Negative of a negative
Nets and surface area
Permutations and combinations
Playing cards: Counting points
Polygons and diagonals
Powers and exponents
Probability: Adding, Summing to one, Two Events, Universe
Problem-solving strategies
Proof by contradiction
Pythagorean Theorem
Rational numbers
Redefining the circle
Relatively prime
Rounding base 12
Rounding metric units
Scale
Sets
Solving for unknowns
Speed
Square roots
Subtraction revisited
Sum of the angles in a rectangle
Supplementary angles
Symmetry around a point
Temperature scales
The balance sheet
Time: 24-hour time, Time zones
Units and Unit conversions

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Fractions Lesson Book

Arithmetic: Addition, subtraction, multiplication, and division
Common denominators
Commutativity
Converting: Decimals to fractions, fractions into numbers, fractions to percentages
Dividing wholes into parts
Equations with more than two fractions
Equivalence
Equivalence rules dividing both numerator and denominator
Etymology
Families
Fractions in geometry
Hour fractions
Inverse numbers

Inverse of an inverse
Least common denominator
Least common multiple
Liquid measure fractions
Money and fractions
Negative fractions
Number line and inequalities
Numerator and denominator
Pie charts
Prime factors
Proper and improper fractions
Reducing fractions
Reduction
Replacing integers with whole fractions
Sequences
Writing fractions

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