

Ch 1. Foundations of Math Overview

- ♥ Lesson 1 - What are the Different Types of Numbers?
- ♥ Lesson 2 - How to Find the Prime Factorization of a Number
- ♥ Lesson 3 - How to Find the Greatest Common Factor
- ♥ Lesson 4 - How to Find the Least Common Multiple
- ♥ Lesson 5 - What Are the Different Parts of a Graph?
- ♥ Lesson 6 - How to Use The Midpoint Formula
- ♥ Lesson 7 - How to Use The Distance Formula

Ch 2. Basic Math Operations

- ♥ Lesson 1 - The Fundamental Theorem of Arithmetic
- ♥ Lesson 2 - Operations with Integers: Add, Subtract, Multiply & Divide
- ♥ Lesson 3 - Adding & Subtracting Rational Numbers
- ♥ Lesson 4 - Multiplying & Dividing Rational Numbers
- ♥ Lesson 5 - Performing Operations with Decimals
- ♥ Lesson 6 - Adding & Subtracting Negative Numbers
- ♥ Lesson 7 - Multiplying & Dividing Negative Numbers
- ♥ Lesson 8 - What is a Percent? - Definition & Examples
- ♥ Lesson 9 - Percentage Increase and Decrease: Calculation and Examples
- ♥ Lesson 10 - Markup & Markdown: Calculation & Examples
- ♥ Lesson 11 - How to Calculate Sales Tax

Ch 3. Basic Measurement in Math

- ♥ Lesson 1 - Common Unit Conversions
- ♥ Lesson 2 - Scientific Notation: Definition and Examples
- ♥ Lesson 3 - Significant Figure: Definition, Examples & Practice Problems

Ch 4. Linear Equations Overview

- ♥ Lesson 1 - What is a Linear Equation?
- ♥ Lesson 2 - Linear Equations: Intercepts, Standard Form and Graphing
- ♥ Lesson 3 - Abstract Algebraic Examples and Going from a Graph to a Rule
- ♥ Lesson 4 - Graphing Undefined Slope, Zero Slope and More
- ♥ Lesson 5 - How to Write a Linear Equation
- ♥ Lesson 6 - What is a System of Equations?
- ♥ Lesson 7 - How Do I Use a System of Equations?

Ch 5. Inequalities Overview

- ♥ Lesson 1 - What is an Inequality?
- ♥ Lesson 2 - How to Graph 1- and 2-Variable Inequalities
- ♥ Lesson 3 - Set Notation, Compound Inequalities, and Systems of Inequalities
- ♥ Lesson 4 - Graphing Inequalities: Practice Problems
- ♥ Lesson 5 - How to Solve and Graph an Absolute Value Inequality
- ♥ Lesson 6 - Solving and Graphing Absolute Value Inequalities: Practice Problems

Ch 6. Graphing and Factoring Quadratic Equations Overview

- ♥ Lesson 1 - What is a Parabola?
- ♥ Lesson 2 - Parabolas in Standard, Intercept, and Vertex Form
- ♥ Lesson 3 - Multiplying Binomials Using FOIL and the Area Method
- ♥ Lesson 4 - Multiplying Binomials Using FOIL & the Area Method: Practice Problems
- ♥ Lesson 5 - How to Factor Quadratic Equations: FOIL in Reverse
- ♥ Lesson 6 - Factoring Quadratic Equations: Polynomial Problems with a Non-1 Leading Coefficient
- ♥ Lesson 7 - How to Complete the Square
- ♥ Lesson 8 - Completing the Square Practice Problems
- ♥ Lesson 9 - How to Solve a Quadratic Equation by Factoring
- ♥ Lesson 10 - How to Use the Quadratic Formula to Solve a Quadratic Equation
- ♥ Lesson 11 - How to Solve Quadratics That Are Not in Standard Form
- ♥ Lesson 12 - Solving Quadratic Inequalities Using Two Binomials

Ch 7. Imaginary & Complex Numbers

- ♥ Lesson 1 - What is an Imaginary Number?
- ♥ Lesson 2 - How to Add, Subtract and Multiply Complex Numbers
- ♥ Lesson 3 - How to Divide Complex Numbers
- ♥ Lesson 4 - How to Graph a Complex Number on the Complex Plane
- ♥ Lesson 5 - How to Solve Quadratics with Complex Numbers as the Solution

Ch 8. Exponents

- ♥ Lesson 1 - What Are the Five Main Exponent Properties?
- ♥ Lesson 2 - How to Define a Zero and Negative Exponent
- ♥ Lesson 3 - How to Simplify Expressions with Exponents
- ♥ Lesson 4 - Rational Exponents
- ♥ Lesson 5 - Simplifying Expressions with Rational Exponents

Ch 9. Polynomial Properties

- ♥ Lesson 1 - How to Graph Cubics, Quartics, Quintics and Beyond
- ♥ Lesson 2 - How to Add, Subtract and Multiply Polynomials
- ♥ Lesson 3 - How to Divide Polynomials with Long Division
- ♥ Lesson 4 - How to Use Synthetic Division to Divide Polynomials
- ♥ Lesson 5 - Dividing Polynomials with Long and Synthetic Division: Practice Problems

Ch 10. Rational Expressions & Practice

- ♥ Lesson 1 - How to Add and Subtract Rational Expressions
- ♥ Lesson 2 - Practice Adding and Subtracting Rational Expressions
- ♥ Lesson 3 - How to Multiply and Divide Rational Expressions
- ♥ Lesson 4 - Multiplying and Dividing Rational Expressions: Practice Problems
- ♥ Lesson 5 - Division and Reciprocals of Rational Expressions
- ♥ Lesson 6 - Simplifying Complex Rational Expressions
- ♥ Lesson 7 - How to Solve a Rational Equation
- ♥ Lesson 8 - Rational Equations: Practice Problems

Ch 11. Basic Functions Overview

- ♥ Lesson 1 - What is a Function: Basics and Key Terms
- ♥ Lesson 2 - Functions: Identification, Notation & Practice Problems
- ♥ Lesson 3 - Transformations: How to Shift Graphs on a Plane
- ♥ Lesson 4 - How to Add, Subtract, Multiply and Divide Functions
- ♥ Lesson 5 - What Is Domain and Range in a Function?
- ♥ Lesson 6 - How to Compose Functions
- ♥ Lesson 7 - Inverse Functions
- ♥ Lesson 8 - Applying Function Operations Practice Problems
- ♥ Lesson 9 - What is a Linear Function? - Definition & Examples
- ♥ Lesson 10 - What is a Radical Function? - Definition, Equations & Graphs
- ♥ Lesson 11 - What Is an Exponential Function?
- ♥ Lesson 12 - Logarithmic Function: Definition & Examples
- ♥ Lesson 13 - What are Piecewise Functions?

Ch 12. Understanding Exponentials & Logarithms

- ♥ Lesson 1 - What Is an Exponential Function?
- ♥ Lesson 2 - Exponential Growth vs. Decay
- ♥ Lesson 3 - What is a Logarithm?
- ♥ Lesson 4 - How to Evaluate Logarithms
- ♥ Lesson 5 - Logarithmic Properties
- ♥ Lesson 6 - Practice Problems for Logarithmic Properties
- ♥ Lesson 7 - How to Solve Exponential Equations
- ♥ Lesson 8 - How to Solve Logarithmic Equations

Ch 13. Basic Mathematical Logic

- ♥ Lesson 1 - Critical Thinking and Logic in Mathematics
- ♥ Lesson 2 - Logical Fallacies: Hasty Generalization, Circular Reasoning, False Cause & Limited Choice
- ♥ Lesson 3 - Logical Fallacies: Appeals to Ignorance, Emotion or Popularity
- ♥ Lesson 4 - Propositions, Truth Values and Truth Tables
- ♥ Lesson 5 - Logical Math Connectors: Conjunctions and Disjunctions
- ♥ Lesson 6 - Conditional Statements in Math
- ♥ Lesson 7 - Logic Laws: Converse, Inverse, Contrapositive & Counterexample

Ch 14. Understanding Sets

- ♥ Lesson 1 - Mathematical Sets: Elements, Intersections & Unions
- ♥ Lesson 2 - Cardinality & Types of Subsets (Infinite, Finite, Equal, Empty)
- ♥ Lesson 3 - How to Find the Cartesian Product
- ♥ Lesson 4 - Venn Diagrams: Subset, Disjoint, Overlap, Intersection & Union
- ♥ Lesson 5 - Categorical Propositions: Subject, Predicate, Equivalent & Infinite Sets
- ♥ Lesson 6 - How to Change Categorical Propositions to Standard Form
- ♥ Lesson 7 - What is a Two-Way Table?

Ch 15. Data Analysis in Math

- ♥ Lesson 1 - Understanding Bar Graphs and Pie Charts
- ♥ Lesson 2 - Reading and Interpreting Line Graphs
- ♥ Lesson 3 - Creating & Interpreting Scatterplots: Process & Examples
- ♥ Lesson 4 - Creating & Interpreting Histograms: Process & Examples
- ♥ Lesson 5 - How to Calculate Percent Increase with Relative & Cumulative Frequency Tables
- ♥ Lesson 6 - How to Calculate Mean, Median, Mode & Range
- ♥ Lesson 7 - Calculating the Standard Deviation
- ♥ Lesson 8 - Normal Distribution of Data: Examples, Definition & Characteristics

Ch 16. Foundations of Probability

- ♥ Lesson 1 - Probability of Simple, Compound and Complementary Events
- ♥ Lesson 2 - Probability of Independent and Dependent Events
- ♥ Lesson 3 - Either/Or Probability: Overlapping and Non-Overlapping Events
- ♥ Lesson 4 - Probability of Independent Events: The 'At Least One' Rule
- ♥ Lesson 5 - How to Calculate Simple Conditional Probabilities
- ♥ Lesson 6 - Math Combinations: Formula and Example Problems
- ♥ Lesson 7 - How to Calculate the Probability of Combinations
- ♥ Lesson 8 - How to Calculate a Permutation
- ♥ Lesson 9 - How to Calculate the Probability of Permutations
- ♥ Lesson 10 - The Multiplication Rule of Probability: Definition & Examples

Ch 17. Overview of Financial Mathematics

- ♥ Lesson 1 - How to Calculate Depreciation Expense: Definition & Formula
- ♥ Lesson 2 - How to Find Simple Interest Rate: Definition, Formula & Examples
- ♥ Lesson 3 - Compounding Interest Formulas: Calculations & Examples
- ♥ Lesson 4 - Nominal Interest Rate: Definition & Equation
- ♥ Lesson 5 - Real Interest Rate: Definition & Calculation
- ♥ Lesson 6 - How to Calculate Internal Rate of Return: Definition & Formula
- ♥ Lesson 7 - How to Calculate Net Present Value: Definition, Formula & Analysis
- ♥ Lesson 8 - How to Calculate Future Value: Formula & Example
- ♥ Lesson 9 - Calculating Monthly Loan Payments
- ♥ Lesson 10 - How to Calculate Mortgage Amortization
- ♥ Lesson 11 - How to Solve Problems Involving Reducing Balance Loans
- ♥ Lesson 12 - How to Calculate the Present Value of an Annuity
- ♥ Lesson 13 - What is a Perpetuity? - Definition & Formula
- ♥ Lesson 14 - How to Calculate Economic Profit: Definition & Formula
- ♥ Lesson 15 - How to Calculate Capital Losses: Definition, Formula & Example

Ch 18. Geometry Foundations

- ♥ Lesson 1 - Properties of Shapes: Rectangles, Squares and Rhombuses
- ♥ Lesson 2 - Properties of Shapes: Triangles
- ♥ Lesson 3 - Perimeter of Triangles and Rectangles
- ♥ Lesson 4 - Area of Triangles and Rectangles

- ♥ Lesson 5 - Circles: Area and Circumference
- ♥ Lesson 6 - The Pythagorean Theorem: Practice and Application
- ♥ Lesson 7 - How to Identify Similar Triangles
- ♥ Lesson 8 - Applications of Similar Triangles
- ♥ Lesson 9 - Parallel, Perpendicular and Transverse Lines
- ♥ Lesson 10 - Types of Angles: Vertical, Corresponding, Alternate Interior & Others
- ♥ Lesson 11 - Angles and Triangles: Practice Problems
- ♥ Lesson 12 - Properties of Shapes: Circles
- ♥ Lesson 13 - Sector of a Circle: Definition & Formula
- ♥ Lesson 14 - Inscribed Angle: Definition, Theorem & Formula