

MathTutor DVD South Africa 2011

Complete DVD Indexed Content

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Young Minds DVD

- Learn to recognize the numbers 1-10.
- Associate the number with physical objects.
- Count from 1-10.
- Animal names and sounds.
- Fruits and Vegetables.
- Names of colours.
- Names of machines such as cars, airplanes, etc.

Basic Maths—Grade 1 Through 7

Disk 1

- Sect 1 : Adding 1 & 2 Digit Numbers
- Sect 2 : Adding 3 & 4 Digit Numbers
- Sect 3 : Subtracting 1 & 2 Digit Numbers
- Sect 4 : Subtracting 3 & 4 Digit Numbers
- Sect 5 : Introduction To Multiplication
- Sect 6 : Learn Your Multiplication Tables
- Sect 7 : Multiplication Problems
- Sect 8 : Division With No Remainder
- Sect 9 : Division With A Remainder
- Sect 10 : Dividing 2,3, & 4 Digit Numbers With Remainder

Disk 2

- Sect 11 : Simplifying Fractions
- Sect 12 : Adding & Subtracting Fractions
- Sect 13 : Adding & Subtracting Fractions & Finding The Common Denominator.

Disk 2 ... Continued

- Sect 14 : Multiplying Fractions
- Sect 15 : Dividing Fractions
- Sect 16 : Decimal Place Value
- Sect 17 : Add, Subtract, & Multiply Decimals
- Sect 18 : Dividing Decimals
- Sect 19 : Percents
- Sect 20 : Ratio & Proportion

Basic Maths—Word Problem Tutor

Disc 1

- Section 1 : Adding Whole Numbers
- Section 2 : Subtracting Whole Numbers
- Section 3 : Multiplying Whole Numbers
- Section 4 : Dividing Whole Numbers
- Section 5 : Adding Decimals
- Section 6 : Subtracting Decimals
- Section 7 : Multiplying Decimals
- Section 8 : Dividing Decimals

Disc 2

- Section 9 : Adding Fractions
- Section 10 : Subtracting Fractions
- Section 11 : Multiplying Fractions
- Section 12 : Dividing Fractions
- Section 13 : Percents, Part 1
- Section 14 : Percents, Part 2
- Section 15 : Ratio and Proportion

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Mental Math Secrets

DVD Contents

- Section 1 : Rapidly Multiply by 11's
- Section 2 : Rapidly Calculate a Restaurant Tip
- Section 3 : The Secret to Rapid Mental Addition
- Section 4 : Rapid Mental Single Column Addition
- Section 5 : Rapid Two Column Addition
- Section 6 : Rapid Money Addition
- Section 7 : Rapidly Multiply any 2-Digit Numbers
- Section 8 : Rapidly Square any Number Ending in 5
- Section 9 : Rapidly Square any Number in the 50s.
- Section 10 : Rapidly Square any Number near 100.
- Section 11 : Mentally Multiply any 2-Digit by 1-Digit Number
- Section 12 : Mentally Square any 2-Digit Number
- Section 13 : Rapidly Multiply 3-Digit by 1-Digit Numbers
- Section 14 : Rapidly Multiply 3-Digit by 2-Digit Numbers
- Section 15 : Rapidly Multiply 3-Digit by 3 Digit Numbers

Pre-Algebra 1

Disk 1

- Sect 1 : Real Numbers
- Sect 2 : The Number Line
- Sect 3 : Greater Than, Less Than, Equal To
- Sect 4 : Absolute Value and Adding Integers
- Sect 5 : Subtracting Integers

Pre-Algebra 1...Continued

Disk 2

- Sect 6 : Multiplying Integers
- Sect 7 : Dividing Integers
- Sect 8 : Powers and Exponents
- Sect 9 : Order of Operations

Pre-Algebra 2

Disk 1

- Sect 1 : Factors and Multiples
- Sect 2 : Prime Factorization
- Sect 3 : Greatest Common Factor
- Sect 4 : Least Common Multiple

Disk 2

- Sect 5 : Introduction to Fractions
- Sect 6 : Mixed and Improper Fractions
- Sect 7 : Finding the Common Denominator
- Sect 8 : Adding Fractions
- Sect 9 : Subtracting Fractions

Disk 3

- Sect 10 : Multiplying Fractions
- Sect 11 : Dividing Fractions
- Sect 12 : Variables and Expressions
- Sect 13 : Adding and Subtracting Expressions
- Sect 14 : Multiplying Expression
- Sect 15 : Dividing Expressions
- Sect 16 : Solving Single Step Equations

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Algebra 1—Fractions

Disk 1

- Section 1: Real Numbers and their graphs
- Section 2 : Fractions
- Section 3 : Exponents
- Section 4 : Add and Subtract Real Number
- Section 5 : Multiply and Divide Real Numbers
- Section 6 : Algebraic Expressions
- Section 7 : Properties of Real Numbers
- Section 8 : Introduction to Equations
- Section 9 : Simplifying Expressions

Disk 2

- Section 11 : Solving Inequalities
- Section 12 : Natural Number Exponents
- Section 13 : Zero Negative Exponents
- Section 14 : Polynomials
- Section 15 : Adding and Subtracting Polynomials
- Section 16 : Multiplying Polynomials
- Section 17 : Dividing Polynomials by Monomials
- Section 18 : Dividing Polynomials by Polynomials
- Section 19 : Factor the greatest common Factor
- Section 20 : Factoring by Grouping
- Section 21 : Factoring the difference of two squares

Algebra 1—Word Problems

Disk 1

- Section 1 : Number Problems
- Section 2 : Digit Problems
- Section 3 : Problems Involving Averages
- Section 4 : Coin and Money Problems
- Section 5 : Age Problems
- Section 6 : Problems Involving Speed, Distance, and Time

Disk 2

- Section 7 : Mixture Problems
- Section 8 : Interest Problems
- Section 9 : Lever Problems
- Section 10 : Work Problems
- Section 11 : Problems Involving Quadratic Equations
- Section 12 : Problems Involving Geometry

Algebra 2

Disk 1

- Section 1 : Graphing Equations
- Section 2 : The Slope Of A Line
- Section 3 : Writing Equations Of Lines
- Section 4 : Graphing Inequalities
- Section 5 : Solving Systems Of Equations By Graphing
- Section 6 : Solving Systems Of Equations By Substitution
- Section 7 : Solving Systems Of Equations By Addition

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Algebra 2...Continued.

Disk 2

- Section 8 : Solving Systems Of Equations In Three Variables
- Section 9 : Simplifying Radical Expressions.
- Section 10 : Add/Subtract Radical Expressions.
- Section 11 : Multiply/Divide Radical Expressions.
- Section 12 : Solving Equations With Radicals.
- Section 13 : Fractional Exponents.
- Section 14 : Solving Polynomial Equations.
- Section 15 : The Quadratic Formula.

Advanced Algebra

Disk 1

- Section 1 : Graphs Of Functions
- Section 2 : Graphs Of Circles
- Section 3 : Transformations Of Functions
- Section 4 : Combinations Of Functions
- Section 5 : Inverses Of Functions
- Section 6 : Quadratic Functions
- Section 7: Zeros Of Polynomials

Disk 2

- Section 8 : Complex Zeros Of Polynomials
- Section 9 : Graphing Rational Functions
- Section 10 : Introduction To Sequences
- Section 11 : Introduction To Series
- Section 12 : Arithmetic Sequences And Series
- Section 13 : Geometric Sequences And Series
- Section 14 : The Binomial Theorem

Matrix Algebra

Disk 1

- Section 1 : Introduction to Matrices
- Section 2 : Adding and Subtracting Matrices & Multiplying Matrices by a Scalar
- Section 3 : Multiplying Matrices
- Section 4 : Row Equivalent Matrices
- Section 5 : Gaussian Elimination and Gauss-Jordan Elimination

Disk 2

- Section 6 : Inconsistent and Dependent Systems
- Section 7 : The Inverse Of A Matrix
- Section 8 : Solving Systems Using Matrix Inverses
- Section 9 : Matrix Determinants
- Section 10 : Cramer's Rule

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Calculator DVD—Ti83 / 84

Disk 1

- Section 1 : Overview of the Calculator
- Section 2 : The Mode Menu
- Section 3 : Basic Arithmetic and Exponents
- Section 4 : Logarithms and Square Roots
- Section 5 : Sin, Cos, Tan
- Section 6 : Scientific Notation and Storing Variables
- Section 7 : The Math Menu and Catalog Menu
- Section 8 : Convert between Fractions and Decimals
- Section 9 : Finding the Min and Max of a Function
- Section 10 : Calculating Derivatives and Integrals
- Section 11 : Absolute Value, Rounding, and Integers
- Section 12 : Converting between Degrees and Radians
- Section 13 : Working with Complex Numbers

Disk 2

- Section 14 : Using the Equation Solver
- Section 15 : Graphing and Tracing Functions
- Section 16 : Using Tables and Split Screen Modes
- Section 17 : Find the Exact Value of a Function Using Graphing
- Section 18 : Finding the Zeros of a Function using Graphing
- Section 19 : Finding the Max and Min of a Function using Graphing
- Section 20 : Finding Intersections of Functions using Graphing
- Section 21 : Finding the Derivative of a Function by Graphing
- Section 22 : Calculating the Definite Integral by Graphing
- Section 23 : Drawing on a Graph
- Section 24 : Graphing and Tracing Sequences

Calculator DVD—Ti83 / 84...Continued.

Disk 3

- Section 25 : Graphing and Tracing Parametric Equations
- Section 26 : Converting between Rectangular and Polar Coordinates
- Section 27 : Graphing and Tracing Polar Equations
- Section 28 : Permutations, Combinations, and Factorial
- Section 29 : Working with Histograms and Box Plots
- Section 30 : Graphing Statistical Scatter Plots
- Section 31 : Calculating Mean, Median, Standard Deviation, + more
- Section 32 : Performing Statistical Regression
- Section 33 : Calculating with Matrices
- Section 34 : Solving Systems of Equations with Matrices
- Section 35 : Calculating Interest Rates
- Section 36 : Calculating Mortgages and Loans
- Section 37 : Calculating Savings and Investments

Calculator DVD—Ti89 Volume 1

Disk 1

- Section 1 : Overview of the Calculator
- Section 2 : The Mode Menu
- Section 3 : The Catalog and Math Menu
- Section 4 : Basic Arithmetic and Exponents
- Section 5 : Calculating with Fractions
- Section 6 : Logarithms and Square Roots
- Section 7 : Sin, Cos, Tan, and other Trig Functions
- Section 8 : Storing and Using Variables
- Section 9 : User Defined Algebraic Functions

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Calculator DVD—Ti89 Vol. 1...Continued.

Disk 2

- Section 10 : Using the Algebraic Equation Solver
- Section 11 : Using the Numeric Equation Solver
- Section 12 : Solving Systems of Equations
- Section 13 : Solving Trigonometric Equations
- Section 14 : Adding Rational Expressions and Partial Fractions
Expansion
- Section 15 : Multiplying and Dividing Polynomials
- Section 16 : Factoring Polynomials
- Section 17 : Converting Between Degrees and Radians
- Section 18 : Simplifying Trigonometric Expressions
- Section 19 : Working with Complex Numbers
- Section 20 : Graphing Functions
- Section 21 : Setting Graph Styles and Shading

Disk 3

- Section 22 : Graphing Piecewise-Defined Functions
- Section 23 : Graphing Trigonometric Functions
- Section 24 : Graphing in Split Screen Mode
- Section 25 : Saving and Recalling Graphs
- Section 26 : Graph Zoom Modes and Tracing
- Section 27 : Creating a Table of Values of a Function
- Section 28 : Finding the Value of a Function in Graph Mode
- Section 29 : Finding Zeros of Functions in Graph Mode
- Section 30 : Finding Max and Min of a Function in Graph Mode
- Section 31 : Finding Intersection Points in Graph Mode
- Section 32 : Finding the Derivative and Tangent Line in Graph Mode
- Section 33 : Calculating the Definite Integral in Graph Mode
- Section 34 : Finding Inflection Points in Graph Mode
- Section 35 : Finding Distance Between Two Points in Graph Mode
- Section 36 : Finding the Arc Length in Graph Mode

Calculator DVD—Ti89 Volume 2.

Disk 1

- Section 1 : Taking Derivatives of Functions
- Section 2 : Taking Partial Derivatives
- Section 3 : Calculating Indefinite and Definite Integrals
- Section 4 : Calculating Limits in Calculus
- Section 5 : Calculating Summations and Products
- Section 6 : Calculating the Max and Min of a Function
- Section 7 : Calculating Arc Length of a Function
- Section 8 : Calculating Taylor and Maclaurin Polynomials
- Section 9 : Implicit Differentiation
- Section 10 : Working with Hyperbolic Functions
- Section 11 : Converting between Rectangular and Polar Coordinates
- Section 12 : Converting between Rectangular, Cylindrical, and
Spherical Coordinates
- Section 13 : Calculating with Vectors
- Section 14 : Creating and Editing Matrices
- Section 15 : Calculating with Matrices

Disk 2

- Section 16 : Solving Systems of Equations with Matrices
- Section 17 : Graphing Parametric Equations
- Section 18 : Graphing Polar Equations
- Section 19 : Graphing 3D Equations
- Section 20 : Entering Statistical Data
- Section 21 : Graphing Statistical Histograms
- Section 22 : Graphing Statistical Box Plots
- Section 23 : Graphing Statistical Scatter Plots
- Section 24 : Analyzing One and Two Variable Statistical Data
- Section 25 : Performing Statistical Regression Analysis

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Calculator DVD—Ti89 Volume 2...Continued.

Disk 2

Section 26 : Solving Differential Equations

Section 27 : Solving Differential Equations with Initial Conditions

Section 28 : Graphing Solutions of Differential Equations

Geometry DVD

Disk 1

Section 1 - Lines, Rays, and Planes

Section 2 - Working with Angles

Section 3 - Complimentary and Supplementary Angles

Section 4 - Working with Intersecting Lines

Section 5 - Types of Triangles

Section 6 - Congruent Triangles

Section 7 - The Pythagorean Theorem

Section 8 - Introduction to Polygons

Disk 2

Section 9 - Quadrilaterals

Section 10 - Similar Triangles

Section 11 - Perimeter

Section 12 - Area of Rectangles

Section 13 - Area of Parallelograms

Section 14 - Area of Triangles

Section 15 - Area of Trapezoids

Section 16 - Area of Prisms

Section 17 - Volume of Prisms and Pyramids

Section 18 - Circles and Circular Figures

Section 19 - Cylinders, Cones, and Spheres

Section 20 - Geometric Proofs

Trigonometry & pre-calculus

Disk 1

Section 1 : Complex Numbers

Section 2 : Exponential Functions

Section 3 : Logarithmic Functions

Section 4 : Solving Exponential and Logarithmic Equations

Section 5 : Angles

Disk 2

Section 6 : Finding Trig Functions Using Triangles

Section 7 : Finding Trig Functions Using The Unit Circle

Section 8 : Graphing Trig Functions

Section 9 : Trig Identities

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Calculus 1 – Volume 1

Disk 1

- Section 1 : What Is A Derivative?
- Section 2 : The Derivative Defined As A Limit
- Section 3 : Differentiation Formula
- Section 4 : Derivatives Of Trigonometric Functions
- Section 5 : The Chain Rule
- Section 6 : Higher Order Derivatives
- Section 7 : Related Rates
- Section 8 : Curve Sketching Using Derivatives

Disk 2

- Section 9 : Introduction To Integrals
- Section 10 : Solving Integrals
- Section 11 : Integration By Substitution
- Section 12 : Calculating Volume With Integrals
- Section 13 : Derivatives and Integrals Of Exponentials
- Section 14 : Derivatives Of Logarithms
- Section 15 : Integration By Parts
- Section 16 : Integration By Trig Substitution
- Section 17 : Improper Integrals

Calculus 1 – Volume 2 – derivatives

Disk 1

- Section 1 : Basic Derivatives – Part 1
- Section 2 : Basic Derivatives – Part 2
- Section 3 : Product Rule of Differentiation – Part 1
- Section 4 : Product Rule of Differentiation – Part 2
- Section 5 : Quotient Rule of Differentiation – Part 1
- Section 6 : Quotient Rule of Differentiation – Part 2
- Section 7 : Derivatives of Trig Functions – Part 1

Disk 2

- Section 8 : Derivatives of Trig Functions – Part 2
- Section 9 : The Chain Rule – Part 1
- Section 10 : The Chain Rule – Part 2
- Section 11 : Higher Order Derivatives – Part 1
- Section 12 : Higher Order Derivatives – Part 2
- Section 13 : Implicit Differentiation – Part 1
- Section 14 : Implicit Differentiation – Part 2

Disk 3

- Section 15 : Related Rates – Part 1
- Section 16 : Related Rates – Part 2
- Section 17 : Related Rates – Part 3
- Section 18 : Derivatives of the Natural Log Function
- Section 19 : Derivatives of the Natural Exponential Function
- Section 20 : Derivatives of General Exponential and Log Functions

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Advanced Calculus - 2 Volume 1.

Disk 1

- Section 1 : Inverse Trigonometric Functions
- Section 2 : Derivatives of Inverse Trigonometric Functions
- Section 3 : Hyperbolic Functions
- Section 4 : Inverse Hyperbolic Functions
- Section 5 : L'Hospital's Rule
- Section 6 : Trigonometric Integrals

Disk 2

- Section 7 : Integration By Partial Fractions
- Section 8 : Arc Length
- Section 9 : Area Of A Surface Of Revolution
- Section 10 : Parametric Equations
- Section 11 : Arc Length In Parametric Equations
- Section 12 : Surface Area Of Revolution In Parametric Equations

Disk 3

- Section 13 : Polar Coordinates
- Section 14 : Polar Equations
- Section 15 : Area And Length In Polar Coordinates
- Section 16 : Sequences

Disk 4

- Section 17 : Series
- Section 18 : Integral Test Of Series Convergence
- Section 19 : Comparison Tests Of Series Convergence
- Section 20 : Alternating Series Test Of Convergence
- Section 21 : Ratio and Root Test Of Series Convergence

Advanced Calculus 3 Volume 1

Disk 1

- Section 1 : 3D Cartesian Coordinates
- Section 2 : Introduction To Vectors
- Section 3 : The Vector Dot Product
- Section 4 : The Vector Cross Product
- Section 5 : Vector Valued Functions

Disk 2

- Section 6 : Multivariable Functions And Partial Derivatives
- Section 7 : The Chain Rule For Partial Derivatives
- Section 8 : The Directional Derivative

Disk 3

- Section 9 : The Gradient
- Section 10 : Double Integrals
- Section 11 : Double Integrals In Polar Coordinates

Advanced Calculus - 3 Volume 2.

Disk 1

- Section 1 : Triple Integrals
- Section 2 : Triple Integrals In Cylindrical Coordinates

Disk 2

- Section 3 : Triple Integrals In Spherical Coordinates
- Section 4 : Divergence And Curl Of A Vector Field
- Section 5 : Line Integrals

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Advanced Calculus - 3 Volume 2...Cont.

Disk 3

Section 6 : Line Integrals In A Vector Field
Section 7 : Alternative Form Of Line Integrals In Vector Fields
Section 8 : Fundamental Theorem Of Line Integrals

Disk 4

Section 9 : Green's Theorem
Section 10 : Surface Integrals
Section 11 : Flux Integrals
Section 12 : Stokes Theorem
Section 13 : The Divergence Theorem

Differential Equations 1

Disk 1

Section 1 : What is a Differential Equation?
Section 2 : Solving Elementary Differential Equations
Section 3 : Separation of Variables Solution Method

Disk 2

Section 4 : First Order Variation of Parameters, Part 1
Section 5 : First Order Variation of Parameters, Part 2

Disk 3

Section 6 : Exact Differential Equations
Section 7 : Existence and Uniqueness Theorem
Section 8 : Graphing Solutions to First Order Equations
Section 9 : Applications - Mixing Problems

Differential Equations 1...Cont.

Disk 3

Section 10 : Applications - Newton's Law of Cooling
Section 11 : Applications - Circuit Problems, Part 1
Section 12 : Applications - Circuit Problems, Part 2

Differential Equations 2

Disk 1

Section 1 : Intro to Higher Order Differential Equations
Section 2 : Identifying Linear Ordinary Differential Equations (ODEs)
Section 3 : Solving Elementary Higher Order ODEs
Section 4 : The Linear Differential Operator
Section 5 : The Wronskian Test For Linearly Independent Solutions
Section 6 : Wronskian Problems

Disk 2

Section 7 : Homogeneous ODEs - Constant Coefficients & Real Roots - Part 1
Section 8 : Part 2 of Above
Section 9 : Part 3 of Above
Section 10 : Homogeneous ODEs - Constant Coefficients & Complex Roots - Part 1
Section 11 : Part 2 of Above
Section 12 : Part 3 of Above
Section 13 : Non-Homogeneous ODEs - Undetermined Coefficients - Part 1
Section 14 : Part 2 of Above
Section 15 : Part 3 of Above

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Differential Equations 2...cont...

Disk 3

Section 16 : Part 4 of Above
Section 17 : Part 5 of Above
Section 18 : Part 6 of Above
Section 19 : Non-Homogeneous ODEs –
 Variation of Parameters – Part 1
Section 20 : Part 2 of Above
Section 21 : Part 3 of Above
Section 22 : Part 4 of Above

Chemistry 1 Volume 1

Disk 1

Section 1 : Introduction to Chemistry
Section 2 : Units and Unit Conversions
Section 3 : Significant Figures in Calculations
Section 4 : Temperature
Section 5 : Density

Disk 2

Section 6 : Atomic Theory of Matter: Part 1
Section 7 : Atomic Theory of Matter: Part 2
Section 8 : Atomic Theory of Matter: Part 3
Section 9 : Atomic Number, Mass Number, and Isotopes
Section 10 : Atomic Mass of an Element

Chemistry 1 Volume 1...Continued.

Disk 3

Section 11 : Overview of the Periodic Table
Section 12 : Naming Molecular Compounds
Section 13 : Ions and Ionic Charge
Section 14 : Ionic Compounds
Section 15 : Ionic Compounds with Polyatomic Ions
Section 16 : Hydrate Compounds

Chemistry 1 Volume 2

Disk 1

Section 1 : Molecular Mass and Formula Mass
Section 2 : Avogadro's Number and the Mole - Part 1
Section 3 : Avogadro's Number and the Mole - Part 2
Section 4 : Percent Mass and Empirical Formulas - Part 1
Section 5 : Percent Mass and Empirical Formulas - Part 2

Disk 2

Section 6 : Writing and Balancing Chemical Reactions - Part 1
Section 7 : Writing and Balancing Chemical Reactions - Part 1
Section 8 : Reaction Stoichiometry - Part 1
Section 9 : Reaction Stoichiometry - Part 2
Section 10 : Limiting Reactants - Part 1

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Chemistry 1 Volume 2...Continued.

Disk 3

Sect ion 11 : Limiting Reactants - Part 2
Sect ion 12 : Percent Yield in Chemical Reactions
Sect ion 13 : Molar Concentration of Solutions - Part 1
Sect ion 14 : Molar Concentration of Solutions - Part 2
Sect ion 15 : Dilution of Solutions
Sect ion 16 : Solutions in Chemical Reactions - Part 1
Sect ion 17 : Solutions in Chemical Reactions - Part 2

Physics 1

Disk 1:

Section 1 : Velocity And Acceleration In One Dimension
Section 2 : Equations Of Motion In One Dimension
Section 3 : Scalars And Vectors
Section 4 : Projectile Motion
Section 5 : Newton's Laws Of Motion
Section 6 : Newton's Laws Of Motion With Friction
Section 7 : Work
Section 8 : Kinetic Energy And The Work-Energy Theorem
Section 9 : Potential Energy And Energy Conservation
Section 10 : Power

Disk 2:

Section 11 : Momentum And Impulse
Section 12 : Conservation Of Momentum
Section 13 : Inelastic And Elastic Collisions

Physics 1...Continued.

Disk 2:

Section 14 : Angular Speed And Angular Acceleration
Section 15 : Rotational Equations Of Motion
Section 16 : Tangential Speed And Centripetal Force
Section 17 : Gravitation And Kepler's Laws Of Motion
Section 18 : Torque
Section 19 : Rotational Equilibrium
Section 20 : Angular Acceleration & Moment Of Inertia
Section 21 : Angular Momentum
Section 22 : Density And Pressure
Section 23 : They Buoyant Force
Section 24 : The Bernoulli Equation

Physics 2 Volume 1

Disk 1

Section 1 : Thermometers and Temperature Scales
Section 2 : Expansion and Contraction of Solids and Liquids
Section 3 : Kinetic Theory of Gases

Disk 2

Section 4 : Heat
Section 5 : Latent Heat and Phase Change
Section 6 : Heat Transfer by Convection, Radiation, and Conduction
Section 7 : Work, Heat, and PV Diagrams

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Physics 2 – Volume 1...Continued.

Disk 3

Section 8 : The First Law of Thermodynamics
Section 9 : Heat Engines and the Second Law of Thermodynamics
Section 10 : Refrigerators
Section 11 : Entropy

Physics 2 – Volume 2.

Disk 1

Section 1 : Oscillations and Simple Harmonic Motion - Part 1
Section 2 : Oscillations and Simple Harmonic Motion - Part 2

Disk 2

Section 3 : Conservation of Energy in Simple Harmonic Motion
Section 4 : Pendulums and Resonance
Section 5 : Transverse Waves - Part 1

Disk 3

Section 6 : Transverse Waves - Part 2
Section 7 : Superposition and Interference of Waves
Section 8 : Standing Waves and Resonance - Part 1
Section 9 : Standing Waves and Resonance - Part 2

Disk 4

Section 10 : Speed of Sound Waves
Section 11 : Traveling Waves
Section 12 : Sound Intensity and Sound Level
Section 13 : Doppler Shift

Physics 3 Volume 1.

Disk 1

Section 1 : Electric Charge and Coulomb's Law
Section 2 : Electric Field due to a Point Charge
Section 3 : Electric Field due to a dipole

Disk 2

Section 4 : Electric Field due to a Charged Ring
Section 5 : Gauss' Law, Part 1
Section 6 : Gauss' Law, Part 2

Disk 3

Section 7 : Gauss' Law, Cylindrical Symmetry
Section 8 : Gauss' Law, Planar Symmetry
Section 9 : Gauss' Law, Spherical Symmetry
Section 10 : Electric Potential, Part 1

Disk 4

Section 11 : Electric Potential, Part 2
Section 12 : Electric Potential of Point Charges
Section 13 : Electric Potential of a Dipole
and Continuous Charge Distributions.

Physics 3 Volume 2.

Disk 1

Section 1 : The Capacitor
Section 2 : Capacitor Problems
Section 3 : Capacitors in Circuits, Part 1
Section 4 : Capacitors in Circuits, Part 2
Section 5 : Energy Storage in a Capacitor

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Physics 3 Volume 2...Continued.

Disk 2

Section 6 : Capacitors with a Dielectric, Part 1
Section 7 : Capacitors with a Dielectric, Part 2
Section 8 : Electric Current and Current Density, Part 1
Section 9 : Electric Current and Current Density, Part 2
Section 10 : The Magnetic Field
Section 11 : Magnetic Force on a Charged Particle, Part 1
Section 12 : Magnetic Force on a Charged Particle, Part 2

Disk 3

Section 13 : Equations of an Orbiting Charge in a Magnetic Field
Section 14 : Magnetic Confinement and the Earth's Aurora
Section 15 : Orbiting Charges in a Magnetic Field
Section 16 : Magnetic Force on a Current Carrying Wire, Part 1
Section 17 : Magnetic Force on a Current Carrying Wire, Part 2
Section 18 : Magnetic Force on a Current Carrying Wire, Part 3
Section 19 : Magnetic Torque on a Current Loop (Electric Motors)

Probability and Statistics

Disk 1

Section 1 : Permutations
Section 2 : Combinations
Section 3 : Fundamentals of Probability
Section 4 : Addition Rules of Probability

Probability and Statistics...Continued.

Disk 2

Section 5 : Conditional Probability
Section 6 : Bayes' Theorem
Section 7 : Mathematical Expectation
Section 8 : Mean, Median, and Mode
Section 9 : Standard Deviation and Variance
Section 10 : Random Variables and Introduction to Probability Distributions

Disk 3

Section 11 : The Binomial Probability Distribution
Section 12 : Mean and Standard Deviation of the Binomial Distribution
Section 13 : The Poisson Probability Distribution
Section 14 : The Normal Probability Density

Unit Conversions

DVD Contents

Section 1 ; Scientific Notation
Section 2 : The Metric System and SI Units
Section 3 : Unit Conversions Involving Length
Section 4 : Unit Conversions Involving Area
Section 5 : Unit Conversions Involving Volume
Section 6 : Unit Conversions Involving Speed
Section 7 : Unit Conversions Involving Mass and Weight
Section 8 : Unit Conversions Involving Density