



Finite Mathematics

978-1-63545-026-2



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Mathispower4u	James Sousa	MathIsPower4U	Mathispower4U Videos
Open Textbook Library		Math in Society	Math in Society

Knewton Finite Math was developed to meet the scope and sequence of a typical one semester Finite Math course. To develop the course, Knewton used a variety of different source content, including OpenStax Calculus, a Math in Society textbook developed by a professor at Pierce College and the Open Course Library project, videos created by a Math Professor we have partnered with, and a team of Subject Matter Experts (SMEs). The SMEs come from diverse backgrounds and are all accomplished academics in the field of Mathematics.

Knewton Finite Math has two instructional sequences for every learning objective, giving students multiple opportunities to learn new concepts. Between our text, video, and Knewton SMEs, we were able to solicit ideas from math instructors and students at all levels of higher education. Knewton Finite Math covers the typical breadth of topics and also provides the necessary depth to ensure the course is manageable and engaging for instructors and students alike.

Finite Mathematics | Table of Contents

Chapter 1: Algebra Reference

Properties of Real Numbers and Polynomials

- Properties of Real Numbers
 - Use the following properties of real numbers: inverse and identity
 - Use the following properties of real numbers: commutative, associative, and distributive
- Polynomials
 - Add and subtract polynomials
 - Multiply binomials together
 - Multiply polynomials together
 - Perform operations with polynomials of several variables

Factoring

- Factoring Quadratics
 - Factor the greatest common factor of a polynomial
 - Factor a trinomial
 - Factor a trinomial by grouping
 - Factor a perfect square trinomial
 - Factor a difference of squares
- Other Factoring Techniques
 - Factor a cubic by grouping
 - Factor the sum and difference of cubes
 - Factor expressions using fractional or negative exponents
 - Factor expressions using greatest common factor and other technique

Rational Expressions

- Operations on Rational Expressions
 - Simplify rational expressions
 - Multiply rational expressions
 - Divide rational expressions
 - Add and subtract rational expressions

Equations

- Linear Equations
 - Identify identity, conditional, and inconsistent equations
 - Solve equations in one variable algebraically, variable just on one side
 - Solve equations in one variable algebraically, variable on both sides
 - Quadratic Equations
 - Solve quadratic equations by factoring, leading coefficient 1
 - Solve quadratic equations by factoring, leading coefficient > 1
 - Solve quadratic equations by using the quadratic formula
-

- Rational Equations
 - Solve a rational equation, monomials in denominator
 - Solve a rational equation, binomials in denominator
 - Solve a rational equation, requires factoring to find least common denominator

Inequalities

- Linear Inequalities
 - Use interval notation
 - Use properties of inequalities
 - Solve simple inequalities in one variable algebraically
- Quadratic and Rational Inequalities
 - Solve quadratic inequalities in one variable, graph the solution set, and express the solution set using interval notation
 - Solve inequalities that involve rational expressions, graph the solution sets, and express the solution set using interval notation

Exponents

- Properties of Exponents
 - Understand exponent notation
 - Use the product rule of exponents
 - Use the quotient rule of exponents
 - Use the power rule of exponents
- Advanced Properties of Exponents
 - Use the negative and zero exponent rule
 - Find the power of a product
 - Find the power of a quotient
 - Simplify exponential expressions

Radicals

- Simplify Radicals
 - Evaluate square roots
 - Use the product rule to simplify square roots
 - Use the quotient rule to simplify square roots
- Operations with Radicals
 - Add and subtract square roots
 - Rationalize denominators with a monomial denominator
 - Rationalize denominators using the conjugate

Chapter 2: Linear Functions

Slopes and Equations of Lines

- Cartesian Coordinate System
 - Plot ordered pairs in a Cartesian coordinate system
 - Graph equations by plotting points
-

- Identify Slopes and Intercepts
 - Find the slope of a line given two points
 - Understand the relationship between the slope and y-intercept of a line and its equation
 - Find x -intercepts and y -intercepts
- Finding Linear Equations
 - Find equation of a line, in slope-intercept form, given slope and one point (point-slope formula)
 - Find equation, in slope-intercept form, of a line passing through two given points
 - Given slope and intercept, find the equation of a line and write it in standard form
 - Find the equation of vertical and horizontal lines
- Graphing Linear Equations
 - Graph a linear equation using the slope and the origin
- Parallel and Perpendicular Lines
 - Given the equations of two lines, determine whether their graphs are parallel or perpendicular
 - Write the equation of a line parallel to a given line
 - Write the equation of a line perpendicular to a given line

Linear Functions and Applications

- Linear Functions
 - Understand function notation
 - Evaluate a linear function at a value
- Applications of Linear Functions
 - Solve supply and demand problems using linear functions
 - Solve cost analysis problems using linear functions
 - Solve break even analysis problems using linear functions

The Least Squares Line

- The Least Squares Line
 - Find the linear regression equation given a list of data points
 - Make predictions using a line of best fit
 - Find and interpret the correlation coefficient

Chapter 3: Systems of Linear Equations and Matrices

Solving Linear Systems

- Linear Systems in Two Variables
 - Solve systems of equations in two variables by graphing
 - Solve systems of equations in two variables by substitution
 - Solve systems of equations in two variables by addition
 - Identify inconsistent and dependent systems of equations containing two variables, and express the solution of dependent equations
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- Linear System in Three Variables
 - Determine whether an ordered triple is a solution to a system
 - Solve systems of three equations in three variables
 - Identify inconsistent and dependent systems of equations containing three variables, and express the solution of a system of dependent equations
- Applications of Linear Systems
 - Use systems of equations to investigate profits
 - Write and solve a system of equations in two variables from a word problem

Solving Linear Systems by the Gauss-Jordan Method

- Solving Systems with Gaussian Elimination
 - Convert between a system of equations and its corresponding augmented matrix
 - Use row operations to solve a system of linear equations in two variables
 - Use row operations to solve a system of linear equations in three variables
 - Use matrices to solve applications of systems of linear equations

Operations with Matrices

- Addition and Subtraction of Matrices
 - Determine the order of a matrix and describe elements within a matrix
 - Add or subtract matrices
- Multiplication of Matrices
 - Multiply a matrix by a scalar
 - Find the sum or difference of scalar multiples
 - Multiply two matrices

Matrix Inverses and Determinants

- Determinants of Matrices
 - Find the determinant of a 2x2 matrix
 - Find the determinant of a 3x3 matrix
- Inverse and Identity Matrices
 - Understand the identity matrix and how it relates to the inverse matrix
 - Determine if a matrix is invertible using the determinant
 - Find the inverse of a 2x2 matrix
 - Find the inverse of a 3x3 matrix
- Solving Systems with Inverses
 - Solve a system of linear equations using the inverse of a 2x2 matrix
 - Solve a system of linear equations using the inverse of a 3x3 matrix

Input-Output Models

- Input-Output Matrices
 - Create an input output matrix for a given application
 - Calculate the amount of commodities produced given an input output matrix and a production matrix
 - Determine the production matrix that will satisfy a given demand matrix
 - Find the production of a commodity in a closed input output model
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Chapter 4: Linear Programming - The Graphical Method

Graphing Linear Inequalities

- Graphs of Linear Inequalities
 - Solve a linear inequality in two variables by graphing
 - Solve a linear system of inequalities by graphing

Solving Linear Programming Problems Graphically

- Solving Linear Programming Problems Graphically
 - Graph a feasible region given a set of constraints
 - Find the maximum value of an objective function given constraints by graphing

Applications of Linear Programming

- Applications of Linear Programming
 - Solve application problems using linear programming

Chapter 5: Linear Programming - The Simplex Method

Slack Variables and the Pivot

- Finding Solutions using Initial Simplex Tableaus
 - Rewrite a linear programming problem using slack variables and create an initial simplex tableau
 - Read a solution from an initial simplex tableau
 - Find a new solution by pivoting an initial simplex tableau

Maximization and Minimization Problems

- Solving Maximization Problems with the Simplex Method
 - Solve maximization problems using the simplex method
- Transposing a Matrix and Finding the Dual of a Linear Programming Problem
 - Determine the transpose of a matrix
 - Determine the dual of a linear programming problem
- Solving Minimization Problems with Duality
 - Solve minimization problems using the theorem of duality

Nonstandard Problems

- Solving Nonstandard Problems
 - Solve a nonstandard linear programming problem
 - Solve a nonstandard linear programming application problem

Chapter 6: Mathematics of Finance

Simple Interest

- Simple Interest
 - Calculate simple interest
 - Calculate interest discounts on a discounted loan
-

Compound Interest

- Compound Interest
 - Calculate periodically compounded interest
 - Calculate compound interest
 - Calculate continuously compounded interest
 - Calculate effective annual yield

Annuities, Stocks, and Bonds

- Annuities
 - Calculate the value of an annuity
 - Calculate the payment needed to achieve a determined future value
- Stocks
 - Define stock terminology
 - Read a stock table

Installment Loans, Amortization, and Credit Cards

- Mortgages and Loans
 - Calculate the monthly payment and interest cost for a mortgage
 - Construct a loan amortization schedule
 - Choose the best installment loan plan
- Credit Cards
 - Recognize key features of credit cards
 - Calculate the average daily balance of a credit card
 - Determine interest to be paid on a card's next billing date

Chapter 7: Logic

Statements and Logical Connectives

- The Building Blocks of Logic
 - Identify and negate simple statements
 - Identify and negate quantified statements
- Symbolic Representation of Statements
 - Identify logical connectives and compound statements
 - Represent and/or/not statements in symbolic form and English
- Conditional Statements
 - Represent conditional statements in symbolic form and English
 - Write biconditional statements in symbolic form and English
 - Represent symbolic statements with parentheses using dominance of connectives

Truth Tables for Negation, Conjunction, and Disjunction

- Introduction to Truth Tables
 - Construct a truth table for a statement with a conjunction and/or a negation and determine its truth value
 - Construct a truth table for a statement with a disjunction and/or a negation and determine its truth value
 - Construct a truth table for a compound statement with a conjunction and disjunction and determine its truth value
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Truth Tables for the Conditional and Biconditional

- Truth Tables for Conditional and Biconditional Statements
 - Construct a truth table for a conditional statement and determine its truth value
 - Construct a truth table for a biconditional statement and determine its truth value
- Self-Contradictions, Tautologies, and Implications
 - Identify self-contradictions, tautologies, and implications

Equivalent Statements

- Equivalent Statements and De Morgan's Equivalence Laws
 - Determine if two symbolic statements are equivalent using a truth table
 - Determine if two statements given in English are equivalent using a truth table
 - Determine if two statements are equivalent using De Morgan's laws
- Conditional States and Equivalence
 - Convert a disjunction into an equivalent conditional statement
 - Determine if two conditional statements are equivalent

Symbolic Arguments

- Drawing and Verifying Conclusions
 - Draw a conclusion from a conditional statement
 - Determine if an argument is valid using a truth table
 - Identify and validate the standard forms of arguments

Euler Diagrams and Syllogistic Arguments

- Euler Diagrams and Syllogistic Arguments
 - Identify syllogistic arguments
 - Represent a syllogistic argument with a Euler diagram
 - Determine if a syllogistic argument is valid with a Euler diagram

Switching Circuits

- Switching Circuits and Symbolic Logic
 - Convert between symbolic statements and switching circuits
 - Determine conditions for when a lightbulb will be turned on in a switching circuit
 - Determine if two switching circuits are equivalent

Chapter 8: Sets and Counting Principles

Set Concepts

- Introduction to Sets and Set Builder Notation
 - Represent a set using a written description and the roster method
 - Represent a set using set builder notation
 - Set Equivalence
 - Identify the cardinal number for a set
 - Determine if two sets are equivalent
 - Determine if two sets are equal
 - Types of Sets
 - Identify subsets, universal sets, and empty sets
 - Distinguish between finite and infinite sets
-

- Subsets and Proper Subsets
 - Identify subsets and proper subsets using set notation
 - Determine the number of subsets and proper subsets in a given set

Venn Diagrams and Set Operations

- Representing Sets with Venn Diagrams
 - Illustrate the universal set, a set, and complement of a set using a Venn diagram
 - Illustrate two sets using Venn diagram and set notation
- Set Relationships
 - Determine the complement of a set using Venn diagrams and proper set notation
 - Determine the intersection of two sets using Venn diagrams and set notation
 - Determine the union of two sets using Venn diagrams and set notation
- Set Operations
 - Perform operations on sets
 - Find the difference and cartesian product of two sets
 - Use Venn diagrams to find the result of set operations on two sets
 - Determine the cardinal number of a union of two finite sets

Venn Diagrams with Three Sets and Verification of Equality of Sets

- Construct a Venn Diagram of Three Sets
 - Perform set operations on three sets
 - Represent three sets using Venn diagrams

The Fundamental Counting Principle

- The Fundamental Counting Principle
 - Solve counting problems using the addition principle
 - Solve counting problems using the multiplication principle

Permutations and Combinations

- Permutations
 - Evaluate an expression with factorials
 - Find the number of permutations of n distinct objects using the multiplication principle
 - Find the number of permutations of n distinct objects using a formula
 - Find the number of permutations of n non-distinct objects
- Combinations
 - Find the number of combinations using the formula
 - Find the number of subsets of a set

Chapter 9: Probability

Introduction to Probability

- Sample Spaces and Events
 - Determine the sample space of an experiment
 - Determine an event of an experiment
 - Fundamentals of Probability
 - Compute the probability of equally likely outcomes
 - Compute the probability of equally likely outcomes in application
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- Probability with Permutations and Combinations
 - Compute probability involving permutations
 - Compute probability involving combinations
- The Complement Rule and Probability
 - Use the complement rule to compute probabilities
 - Compute the probability of an event happening at least once
- Odds and Expected Value
 - Compute the expected value of an event
 - Compute odds using probability

Conditional Probability and Independent Events

- Independent Events
 - Compute the probability of the union of two events
 - Compute the probability of two independent events occurring
- Dependent Events and Conditional Probability
 - Compute the conditional probability of a dependent event occurring
 - Compute the probability of two or more dependent events occurring

Binomial Probability

- Binomial Experiments
 - Identify a binomial experiment
 - Determine the binomial probability of success in an experiment performed multiple times
 - Calculate expected value for binomial probability

Bayes' Theorem

- Bayes' Theorem
 - Apply Bayes' theorem to solve an application problem

Random Variables, Probability Distributions and Expected Value

- Random Variables, Probability Distributions, and Expected Value
 - Calculate probability distribution
 - Calculate the expected value of a random variable

Chapter 10: Statistics

Sampling, Frequency Distributions, and Graphs

- Sampling and Parameters
 - Understand the definitions of population, sampling, statistic, parameter, and data
 - Identify stratified, cluster, systematic, and convenience sampling
 - Identify sampling errors and bias
 - Identify situations in which statistics can be misleading
 - Frequency Distributions and Histograms
 - Construct and understand frequency tables for a set of data
 - Create and interpret histograms
 - Create and interpret stem-and-leaf plots
-

Measures of Central Tendency and Measures of Dispersion

- Means and Medians
 - Find the mean of a set of data
 - Find the mean from a frequency table
 - Find the median of a set of data
- Modes, Midranges, and Choosing a Measurement
 - Find the mode of a set of data
 - Find the midrange of a set of data
 - Determine whether the mean, median, or mode is the best measure of center for a data set
- Standard Deviation
 - Compute the sample variance and sample standard deviation
 - Interpret the standard deviation of a set of data

The Normal Distribution, Margins of Error, and Skewness

- The Normal Distribution
 - Understand the notation and interpret the parameters of a normal distribution
 - Compute z-scores and use them to compare values from different data sets
 - Determine if a data set is skewed
- Percentiles, Quartiles, and Margins of Error
 - Find and interpret percentiles and quartiles of a data set
 - Calculate and interpret margin of error
- Problem Solving with the Normal Distribution
 - Standardize a normally distributed random variable
 - Calculate the mean and standard deviation of a standard normal distribution

Chapter 11: Nonlinear Functions

Properties of Functions

- Functions and Function Notation
 - Identify domain and range from a set of ordered pairs
 - Determine whether a relation represents a function
- Relations and Functions
 - Determine whether a function is one-to-one
 - Use the vertical line test to identify functions
 - Use the horizontal line test to identify one-to-one functions

Quadratic Functions

- Characteristics of Parabolas
 - Determine axis of symmetry and vertex of parabolas from a graph
 - Determine x- and y-intercepts of parabolas from a graph
-

- Graphs of Quadratic Functions
 - Find the direction a parabola opens and its axis of symmetry and vertex from the general form of its equation
 - Identify the axis of symmetry and vertex of a parabola from its equation in standard form
 - Write the equation of a quadratic function given vertex and a point on a graph
 - Write the equation of a quadratic function given intercepts on a graph
 - Write the equation of a quadratic function in standard form given the equation in general form
- Applications of Quadratic Functions
 - Find the domain and range of a quadratic function
 - Determine the maximum and minimum values of quadratic functions
 - Find the x- and y-intercepts of a quadratic function

Transformations of Functions

- Transformations of Functions
 - Graph functions using vertical and horizontal shifts
 - Graph functions using reflections about the x-axis and the y-axis
 - Graph functions using compressions and stretches
 - Combine transformations

Polynomial and Rational Functions

- Polynomial Functions
 - Identify power functions and polynomial functions
 - Graph polynomial functions
 - Write a formula for a polynomial function from a graph
 - Determine equation of a polynomial given key information
- Asymptotic Behavior of Rational Functions
 - Use arrow notation to describe local behavior and end behavior of rational functions
 - Identify vertical asymptotes and removable discontinuities of rational functions
 - Identify horizontal and slant asymptotes of rational functions
- Graphs and Applications of Rational Functions
 - Find the intercepts of a rational function
 - Graph rational functions
 - Find the equation of a rational function from a graph

Exponential and Logarithmic Functions

- Identify and Evaluate Exponential Functions
 - Identify exponential functions
 - Evaluate exponential functions
 - Calculate continuous growth and decay
 - Graphing Exponential Functions
 - Graph exponential functions
 - Graph exponential functions using transformations
-

- Relate Logarithms and Exponents
 - Convert from logarithmic to exponential form
 - Convert from exponential to logarithmic form
- Evaluate Logarithmic Expressions
 - Evaluate logarithms with positive integer solutions
 - Evaluate logarithms with negative integer solutions
 - Use common logarithms
 - Use natural logarithms
- Basic Properties of Logarithms
 - Understand the basic properties of logarithms
 - Use the product rule for logarithms
 - Use the quotient rule for logarithms
 - Use the power rule for logarithms
- Solve Logarithmic Equations
 - Use the definition of a logarithm to solve logarithmic equations
 - Use logarithm properties and the definition of the logarithm to solve logarithmic equations
 - Use the one-to-one property of logarithms to solve logarithmic equations
- Applications of Exponential and Logarithmic Functions
 - Model exponential growth
 - Model exponential decay
 - Applied logarithmic models
 - Choose an appropriate model for data
 - Express an exponential model in base e

Chapter 12: Markov Chains

Properties of Markov Chains

- Transitions
 - Identify transition diagrams and transition matrices
 - Create a transition diagram and matrix for a given word problem
- States
 - Find the second state of a system given a transition matrix and initial state
 - Find powers of a transition matrix
 - Solve application problems using powers of transition matrices

Regular Markov Chains

- Regular Transition Matrices and Stationary Matrices
 - Determine if a transition matrix is regular
 - Find a stationary matrix for a given transition matrix
 - Solve application problems using stationary matrices
-

Absorbing Markov Chains

- Absorbing States
 - Find absorbing states given a transition matrix
 - Determine if a transition matrix is for an absorbing Markov chain
 - Write a transition matrix in standard form
 - Limiting Matrix
 - Find the limiting matrix for an absorbing Markov chain
-