AP Calculus AB

Time : 115h 56m / Lessons : 122 / Activities : 330

Unit	Lesson	Lesson Objectives	Time
Precalculus Review	Introduction to AP Calculus		8m
	Writing Two-Variable Linear Equations	1. Create linear equations given information about points, slope, and intercepts.	46m
		2. Solve problems by writing two-variable linear equations.	
	Reading Lesson 1.1		1h 31m
	Composition of Functions	1. Write an expression for the composition of functions.	47m
		2. Find the domain of the composition of functions.	
		3. Evaluate the composition of functions.	
	Symmetry	1. Determine the symmetry of a relation from a graph.	48m
		2. Determine the symmetry of a function algebraically.	
	Piecewise Defined Functions	1. Graph piecewise defined functions.	54m
		2. Evaluate piecewise defined functions.	
		3. Determine the domain, range, and continuity of piecewise defined functions.	
	Reading Lesson 1.2		1h 31m
	Graphing Exponential Functions	1. Identify exponential functions.	56m
		2. Determine the domain and range of exponential functions.	
		3. Graph exponential functions.	
	Base e	1. Apply properties of logarithms and exponents to solve exponential and logarithmic equations having base e.	50m
		2. Analyze exponential and logarithmic functions in base e to determine key features of the graph.	
		3. Determine the domain and range of exponential and logarithmic functions in base e.	
	Modeling with Exponential and Logarithmic Equations	1. Model and solve real-world problems using exponential and logarithmic functions.	37m
	Reading Lesson 1.3		1h 31m
	Parametric Equations	1. Define curves parametrically.	35m
		2. Graph parametric equations.	
		3. Determine the Cartesian equation that contains a given parametric equation.	
	Reading Lesson 1.4		1h 31m
	Function Inverses	1. Find the inverse of a function.	53m
		2. Use composition to verify that functions are inverses.	
	Graphing Logarithmic Functions	1. Identify logarithmic functions.	52m
		2. Determine the domain and range of logarithmic functions.	
		3. Identify and analyze the graphs of logarithmic functions.	
	Properties of Logarithms	1. Evaluate, expand, and simplify logarithmic expressions using properties of logarithms.	48m
	Reading Lesson 1.5		1h 31m
	Radian Measure	1. Convert between degree and radian measure.	40m
		2. Use the definition of radian measure to calculate arc lengths, radii, and angle measures.	
	Evaluating the Six Trigonometric Functions	1. Evaluate the six trigonometric functions for angles in degrees or radians based on one or more given trigonometric function values.	35m
		2. Evaluate the six trigonometric functions for angles in degrees or radians given a point on the terminal ray.	
	Solving Trigonometric Equations	1. Analyze key features of inverse trigonometric functions from equations and graphs.	52m
		2. Evaluate inverse trigonometric functions over a specified domain.	
		3. Solve trigonometric equations over a specified domain.	
	Modeling with Periodic Functions	1. Model and solve real-world problems using periodic functions.	41m
	Reading Lesson 1.6		1h 31m
		1. Find the domain of the composition of functions.	
		2. Determine the symmetry of a function algebraically.	

	Unit Test	3. Define curves parametrically.	40m
		4. Solve trigonometric equations over a specified domain.	
		5. Evaluate the six trigonometric functions for angles in degrees or radians based on one or more given trigonometric function values.	
		6. Analyze key features of inverse trigonometric functions from equations and graphs.	
		7. Model and solve real-world problems using periodic functions.	
		8. Evaluate, expand, and simplify logarithmic expressions using properties of logarithms.	
		9. Model and solve real-world problems using exponential and logarithmic functions.	
		10. Determine the domain, range, and continuity of piecewise-defined functions.	
		11. Apply properties of logarithms and exponents to solve exponential and logarithmic equations having base e.	
		12. Analyze exponential and logarithmic functions in base e to determine key features of the graph.	
Limits and Continuity	Introduction to Unit 2		1m
	Rates of Change, Limits, and the Squeeze Theorem	1. Determine one-sided and two-sided limits of functions.	29m
		2. Determine average speed.	
		3. Define the limit of a function and the properties of limits.	
		4. Identify conditions under which a limit does and does not exist.	
		5. Compare average speed to instantaneous speed.	
		6. Use the squeeze theorem to indirectly find limits.	
	Reading Lesson 2.1		1h 31m
	Limits Involving Infinity and Vertical and Horizontal Asymptotes	1. Calculate limits as x goes to positive and negative infinity.	26m
		2. Find vertical and horizontal asymptotes using limits.	
		3. Determine end behavior of a function using limits.	
	Reading Lesson 2.2		1h 31m
	Continuous Functions and Intermediate Value Theorem	1. Modify or extend a function to remove discontinuities.	30m
		2. Use properties of continuous functions to determine function continuity over algebraic combinations.	
		3. Identify types of discontinuity, including jump, infinite, and oscillating.	
		4. Use the intermediate value theorem to verify continuity.	
		5. Identify intervals of continuity and discontinuity over intervals of a function.	
	Reading Lesson 2.3		1h 31m
	Slope, Tangent Line, and Normal Line	1. Calculate the average rate of change of a function.	27m
		2. Determine the slope of the tangent line at a point using limits.	
		3. Determine the equation of the tangent line to a curve at a given point.	
		4. Determine the equation of the normal line to a curve at a given point.	
	Reading Lesson 2.4		1h 31m
	Unit Test	1. Determine average speed.	40m
		2. Define the limit of a function and the properties of limits.	
		3. Compare average speed to instantaneous speed.	
		4. Identify conditions when a limit does and does not exist.	
		5. Find vertical and horizontal asymptotes using limits.	
		6. Calculate limits as x goes to positive and negative infinity.	
		7. Identify types of discontinuity, including jump, infinite, and oscillating.	
		8. Determine the slope of the tangent line at a point using limits.	
		9. Determine end behavior of a function using limits.	
		10. Use properties of continuous functions to determine function continuity after algebraic combinations.	
		11. Modify or extend a function to remove discontinuities.	
		12. Use the intermediate value theorem to verify continuity.	
		13. Identify intervals of continuity and discontinuity over intervals of a function.	
		14. Determine the equation of the normal line to a curve at a given point.	

		15. Determine the equation of the tangent line at a given point.	
		16. Calculate the average rate of change of a function.	
		17. Determine one-sided and two-sided limits of functions.	
		18. Use the sandwich theorem to find limits indirectly.	
Derivatives	Introduction to Unit 3		1m
	Derivatives of Functions	1. Approximate the derivative of a function from a given data set.	31m
		2. Calculate the derivative of a function at a point.	
		3. Determine if a function is differentiable on a closed interval.	
		4. Sketch a graph of the derivative of a function when given its graph.	
		5. Determine the derivative of a function using the definition of a derivative.	
		6. Sketch a graph of a function when given the graph of its derivative.	
	Reading Lesson 3.1		1h 31m
	Derivatives and Continuity	1. Identify different types of non-differentiable points, including discontinuities, vertical tangents, corners, and cusps.	23m
		2. Estimate derivatives using graphs and numerical approximation.	
	Reading Lesson 3.2		1h 31m
	Differentiation Rules	1. Use the product rule to find derivatives.	30m
		2. Calculate second derivatives and higher-order derivatives using rules of differentiation.	
		3. Use the quotient rule to find derivatives.	
		4. Use the power rule to find derivatives.	
		5. Calculate instantaneous rate of change using the derivative.	
	Reading Lesson 3.3		1h 31m
	Applications of Derivatives	1. Use derivatives to solve problems involving motion in a straight line.	34m
		2. Solve real-world problems involving rates of change using derivatives.	
	Reading Lesson 3.4		1h 31m
	Differentiating Trigonometric Functions	1. Determine derivatives of trigonometric functions.	26m
	Reading Lesson 3.5		3h 1m
	AP Multiple Choice/Free Response		1h 36m
	Unit Test	1. Determine the derivatives of the six basic trigonometric functions using the rules of differentiation.	40m
		2. Solve real-world problems involving rates of change using derivatives.	
		3. Compute the derivative of a function at a point.	
		4. Compute the derivative of a function using the definition of a derivative.	
		5. Use derivatives to solve problems involving motion in a straight line.	
		6. Use the power rule to find derivatives.	
		7. Sketch a graph of the derivative of a function when given its graph.	
		8. Sketch a graph of a function when given the graph of its derivative.	
		9. Estimate derivatives using graphs and numerical approximation.	
		10. Use the quotient rule to find derivatives.	
		11. Use the product rule to find derivatives.	
		12. Sketch a graph of the derivative of a function when given a data set.	
		13. Calculate second derivatives and higher order derivatives using rules of differentiation.	
		14. Determine if a function is differentiable on a closed interval.	
		15. Identify different types of non-differentiable points, including discontinuities, vertical tangents, corners, and cusps.	
	Introduction to Unit 4		1m
	Differentiating Functions Using the Chain Rule	1. Apply the chain rule to find the derivative of a composite function.	20m
		2. Use the chain rule to determine the slopes of curves defined parametrically.	
	Reading Lesson 4.1		1h 31m
	Differentiating Functions Using Implicit	1. Determine derivatives using implicit differentiation.	23m

More Derivatives	Differentiation	2. Use the power rule to find the derivative of a function raised to a rational power of x.	25m
		Differentiating Functions Containing Inverse Trigonometric Functions	
	Reading Lesson 4.2		1h 31m
	Differentiating Functions Containing Inverse Trigonometric Functions	1. Determine derivatives of inverse functions using the chain rule.	22m
		2. Determine derivatives of inverse trigonometric function.	
	Reading Lesson 4.3		1h 31m
	Differentiating Exponential and Logarithmic Functions	1. Calculate derivatives of exponential functions with a base other than e.	24m
		2. Calculate derivatives of logarithmic functions with a base other than e.	
		3. Calculate derivatives of natural logarithmic functions.	
		4. Calculate derivatives of exponential functions with a base of e.	
	Reading Lesson 4.4		1h 31m
	Unit 4 AP Practice Questions		1h 30m
	Unit Test	1. Determine derivatives of exponential functions with a base other than e.	40m
		2. Determine derivatives of natural logarithmic functions.	
		3. Determine derivatives of exponential functions with a base of e.	
		4. Use the power rule to find the derivative of a function raised to a rational power of x.	
		5. Determine derivatives of inverse trigonometric functions.	
		6. Determine derivatives of inverse functions using the chain rule.	
		7. Determine derivatives using implicit differentiation.	
		8. Use the chain rule to determine the slope of curves defined parametrically.	
		9. Determine derivatives of logarithmic functions with a base other than e.	
		10. Apply the chain rule to find the derivative of a composite function.	
Applications of Derivatives	Introduction to Unit 5		1m
	Introduction to Unit 5	1. Identify the relative minimum and maximum values of a function.	25m
		2. Determine critical points of a function.	
		3. Determine if the extreme value theorem applies to a function on a specific interval.	
		4. Identify the absolute minimum and maximum values of a function.	
	Reading Lesson 5.1		1h 31m
	The Mean Value Theorem	1. Determine increasing and decreasing intervals of a function.	29m
		2. Use the mean value theorem to determine the value where the derivative is equal to the average rate of change.	
	Reading Lesson 5.2		1h 31m
	First and Second Derivative Test	1. Use the first derivative test to determine relative extrema.	25m
		2. Use the second derivative test to determine concavity and points of inflection.	
		3. Use the first and second derivative tests to graph f(x) from f'(x).	
	Reading Lesson 5.3		1h 31m
	Application Problem Solving	1. Solve optimization problems using derivatives.	24m
	Reading Lesson 5.4		1h 31m
	Reading Lesson 5.4	1. Apply Newton's method to approximate zeros of a function.	24m
		2. Use linearization to approximate tangent lines.	
		3. Approximate the change in f using differentials.	
	Reading Lesson 5.5		1h 31m
	Application of Implicit Differentiation	1. Use implicit differentiation to solve related rate problems.	24m
	Reading Lesson 5.6		3h 1m
	Unit 5 AP Practice Questions		1h 30m
		1. Use the first derivative test to determine relative extrema.	
		2. Determine increasing and decreasing intervals of a function.	
		3. Determine critical points of a function.	

	Unit Test	4. Use linearization to approximate tangent lines.	40m
		5. Use the mean value theorem to determine the value where the derivative is equal to the average change.	
		6. Solve optimization problems using derivatives.	
		7. Identify the relative maximum and minimum values of a function.	
		8. Use the first and second derivative test to graph f from f'.	
		9. Use the extreme value theorem to determine if a function is continuous.	
		10. Approximate the change in f using differentials.	
		11. Use the second derivative test to determine concavity and points of inflection.	
		12. Use implicit differentiation to solve related rate problems.	
Cumulative Exam	Cumulative Exam	1. Determine end behavior of a function using limits.	1h 15m
		2. Find vertical and horizontal asymptotes using limits.	
		3. Identify conditions when a limit does and does not exist.	
		4. Evaluate inverse trigonometric functions over a specified domain.	
		5. Define the limit of a function and the properties of limits.	
		6. Analyze key features of inverse trigonometric functions from equations and graphs.	
		7. Compare average speed to instantaneous speed.	
		8. Determine one-sided and two-sided limits of functions.	
		9. Use the sandwich theorem to find limits indirectly.	
		10. Sketch a graph of a function when given the graph of its derivative.	
		11. Determine derivatives of logarithmic functions with a base other than e.	
		12. Determine the derivatives of the six basic trigonometric functions using the rules of differentiation.	
		13. Solve optimization problems using derivatives.	
		14. Use the first and second derivative test to graph f from f '.	
		15. Use the second derivative test to determine concavity and points of inflection.	
		16. Solve motion along a straight line problems using derivatives.	
		17. Approximate the change in f using differentials.	
		18. Determine derivatives using implicit differentiation.	
		19. Use the extreme value theorem to determine if a function is continuous.	
		20. Determine derivatives of exponential functions with a base other than e.	
		21. Determine derivatives of exponential functions with a base of e.	
		22. Use implicit differentiation to solve related rate problems.	
		23. Determine derivatives of inverse trigonometric functions.	
		24. Determine derivatives of inverse functions using the chain rule.	
		25. Use the power rule to find the derivative of a function raised to a rational power of x.	
		26. Apply the chain rule to find the derivative of a composite function.	
		27. Use linearization to approximate tangent lines.	
		28. Determine derivatives of natural logarithmic functions.	
		29. Use the mean value theorem to determine the value where the derivative is equal to the average change.	
		30. Determine the equation of the tangent line at a given point.	
		31. Identify intervals of continuity and discontinuity over intervals of a function.	
		32. Use the intermediate value theorem to verify continuity.	
		33. Estimate derivatives using graphs and numerical approximation.	
		34. Determine the equation of the normal line to a curve at a given point.	
		35. Calculate second derivatives and higher order derivatives using rules of differentiation.	
		36. Use the quotient rule to find derivatives.	
		37. Compute the derivative of a function at a point.	
		38. Identify different types of non-differentiable points, including discontinuities, vertical tangents, corners, and cusps.	

		39. Sketch a graph of the derivative of a function when given a data set.	
		40. Use the product rule to find derivatives.	
		41. Compute the derivative of a function using the definition of a derivative.	
		42. Use the power rule to find derivatives.	
		43. Sketch a graph of the derivative of a function when given its graph.	
Definite Integrals	Introduction to Unit 6		1m
	Estimating with Finite Sums	1. Approximate a distance using area under a velocity curve.	33m
		2. Approximate the area under a curve by using left, right, and midpoint sums.	
		3. Solve accumulation problems by approximating the area under a curve.	
	Reading Lesson 6.1: Estimating with Finite Sums		1h 31m
	Definite Integrals	1. Use definite integrals to solve problems involving accumulation.	26m
		2. Evaluate definite integrals of functions with discontinuities.	
		3. Evaluate a definite integral using an area formula.	
		4. Use integral notation to express a limit of Riemann sums.	
	Reading Lesson 6.2: Definite Integrals		1h 31m
	Definite Integrals and Antiderivatives	1. Calculate the area under a curve using antidifferentiation.	36m
		2. Solve problems using the properties of definite integrals.	
		3. Apply the mean value theorem to determine a point at which a function assumes its average value over a closed interval.	
	Reading Lesson 6.3: Definite Integrals and Antiderivatives		1h 31m
	Fundamental Theorem of Calculus, Parts 1 and 2	1. Use the second part of the fundamental theorem of calculus to solve problems.	36m
		2. Use the first part of the fundamental theorem of calculus to solve problems.	
	Reading Lesson 6.4: Fundamental Theorem of Calculus		1h 31m
	Trapezoidal Rule	1. Approximate the area under a curve using the trapezoidal rule.	18m
		2. Compare the trapezoidal rule to other area approximations including left, right, and midpoint sums.	
		Reading Lesson 6.5: Trapezoidal Rule	3h 1m
		Unit 6 AP Practice Questions	1h 30m
	Unit Test	1. Evaluate definite integrals of functions with discontinuities.	40m
		2. Approximate the area under a curve by using left, right, and midpoint sums.	
		3. Use definite integrals to solve problems involving accumulation.	
		4. Apply the mean value theorem to determine a point at which a function assumes its average value over a closed interval.	
		5. Solve problems using the properties of definite integrals.	
		6. Calculate the area under a curve using antidifferentiation.	
		7. Use integral notation to express a limit of Riemann sums.	
		8. Solve accumulation problems by approximating the area under a curve.	
		9. Evaluate a definite integral using an area formula.	
		10. Approximate a distance using area under a velocity curve.	
		11. Use the first part of the fundamental theorem of calculus to solve problems.	
		12. Approximate the area under a curve using the trapezoidal rule.	
		13. Compare the trapezoidal rule to other area approximations including left, right, and midpoint sums.	
		14. Use the second part of the fundamental theorem of calculus to solve problems.	
	Introduction to Unit 7		1m
	Slope Fields	1. Use a slope field to find a graphical solution for a given differential equation.	24m
		2. Use initial conditions to find solutions to differential equations.	
	Reading Lesson 7.1: Slope Fields and Euler's Method		1h 31m
	Antidifferentiation by Substitution	1. Use substitution as a method of evaluating indefinite and definite integrals.	24m
		2. Evaluate indefinite integrals without using substitution.	
		3. Verify an antiderivative formula.	

Mathematical Modeling Using Differential Equations	Reading Lesson 7.2: Antidifferentiation by Substitution		1h 31m
	Exponential Growth and Decay	1. Use separation of variables to solve initial value problems.	28m
		2. Use exponential functions to model growth and decay.	
		3. Predict temperatures by using Newton's law of cooling.	
	Reading Lesson 7.4: Exponential Growth and Decay		1h 31m
	Unit 7 AP Practice Questions		1h 30m
	Unit Test	1. Use substitution as a method of evaluating indefinite and definite integrals.	40m
		2. Verify an antiderivative formula.	
		3. Use a slope field to find a graphical solution for a given differential equation.	
		4. Evaluate indefinite integrals without using substitution.	
		5. Use separation of variables to solve initial value problems.	
		6. Use exponential functions to model growth and decay.	
		7. Use initial conditions to find solutions to differential equations.	
Applications of Definite Integrals	Introduction to Unit 8		1m
	Introduction to Unit 8	1. Find the net, or accumulated, change of a quantity from a rate of change function.	25m
		2. Calculate the displacement of an object from a given velocity function.	
		3. Calculate the total distance an object travels from a given velocity function.	
		4. Find the net change of a quantity from a rate of change that is given in graphical or tabular form.	
		5. Express the net change of a quantity as a definite integral.	
	Reading Lesson 8.1: Accumulation and Net Change		1h 31m
	Areas in the Plane	1. Calculate the area between two curves defined by only two functions and over a closed interval by integrating with respect to x.	24m
		2. Use subregions to calculate the area between two curves over a closed interval.	
		3. Calculate the area between two curves defined by only two functions and over a closed interval by integrating with respect to y.	
	Reading Lesson 8.2: Areas in the Plane		1h 31m
	Volumes	1. Find the volume of a solid with known cross sections.	46m
		2. Find the volume of a solid generated by revolving a line or curve around a given line.	
		3. Find the volume of a solid generated by revolving a region bounded by two or more lines or curves around a given line.	
		4. Use a definite integral to express the volume of a solid.	
	Reading Lesson 8.3: Volumes		1h 31m
	Applications from Science and Statistics	1. Use the definite integral to solve problems involving fluid pressure.	35m
		2. Use the definite integral to solve problems involving work.	
		3. Use the definite integral to solve problems involving probabilities.	
	Reading Lesson 8.5: Applications from Science and Statistics		1h 31m
	L'Hospital's Rule and Other Applications	1. Compare the growth rates of functions.	33m
		2. Apply L'Hospital's rule to evaluate the limit of an indeterminate form.	
	Reading Lesson 9.2 and 9.3: L'Hospital's Rule and Other Applications		3h 1m
	Unit 8 AP Practice Questions		1h 30m
	Unit Test	1. Calculate the displacement of an object from a given velocity function.	40m
		2. Express the net change of a quantity as a definite integral.	
		3. Calculate the total distance an object travels from a given velocity function.	
		4. Find the net, or accumulated, change of a quantity from a rate of change function.	
		5. Find the net change of a quantity from a rate of change that is given in graphical or tabular form.	
		6. Use subregions to calculate the area between two curves over a closed interval.	
		7. Compare the growth rates of functions.	
		8. Apply l'Hopital's rule to evaluate the limit of an indeterminate form.	
		9. Find the volume of a solid generated by revolving a region bounded by two or more lines or curves around a given line.	
		10. Find the volume of a solid generated by revolving a line or curve around a given line.	

		11. Use a definite integral to express the volume of a solid.	
		12. Find the volume of a solid with known cross sections.	
		13. Calculate the area between two curves defined by only two functions and over a closed interval by integrating with respect to y.	
		14. Calculate the area between two curves defined by only two functions and over a closed interval by integrating with respect to x.	
Cumulative Exam	Cumulative Exam	1. Solve accumulation problems by approximating the area under a curve.	1h 15m
		2. Approximate a distance using area under a velocity curve.	
		3. Use integral notation to express a limit of Riemann sums.	
		4. Approximate the area under a curve by using left, right, and midpoint sums.	
		5. Use definite integrals to solve problems involving accumulation.	
		6. Use initial conditions to find solutions to differential equations.	
		7. Use exponential functions to model growth and decay.	
		8. Evaluate a definite integral using an area formula.	
		9. Use a slope field to find a graphical solution for a given differential equation.	
		10. Use the second part of the fundamental theorem of calculus to solve problems.	
		11. Apply the mean value theorem to determine a point at which a function assumes its average value over a closed interval.	
		12. Use substitution as a method of evaluating indefinite and definite integrals.	
		13. Solve problems using the properties of definite integrals.	
		14. Approximate the area under a curve using the trapezoidal rule.	
		15. Compare the trapezoidal rule to other area approximations including left, right, and midpoint sums.	
		16. Verify an antiderivative formula.	
		17. Evaluate definite integrals of functions with discontinuities.	
		18. Calculate the area under a curve using antidifferentiation.	
		19. Evaluate indefinite integrals without using substitution.	
		20. Use separation of variables to solve initial value problems.	
		21. Use the first part of the fundamental theorem of calculus to solve problems.	
		22. Calculate the displacement of an object from a given velocity function.	
		23. Calculate the total distance an object travels from a given velocity function.	
		24. Find the net, or accumulated, change of a quantity from a rate of change function.	
		25. Express the net change of a quantity as a definite integral.	
		26. Find the volume of a solid generated by revolving a line or curve around a given line.	
		27. Use subregions to calculate the area between two curves over a closed interval.	
		28. Calculate the area between two curves defined by only two functions and over a closed interval by integrating with respect to x.	
		29. Use a definite integral to express the volume of a solid.	
		30. Find the volume of a solid generated by revolving a region bounded by two or more lines or curves around a given line.	
		31. Find the net change of a quantity from a rate of change that is given in graphical or tabular form.	
		32. Calculate the area between two curves defined by only two functions and over a closed interval by integrating with respect to y.	
		33. Find the volume of a solid with known cross sections.	
		34. Apply l'Hopital's rule to evaluate the limit of an indeterminate form.	
		35. Compare the growth rates of functions.	
		36. Use the definite integral to solve problems involving fluid pressure.	
		37. Use the definite integral to solve problems involving work.	
		38. Use the definite integral to solve problems involving probabilities.	
	Preparing for the Exam		11m
	Review: Limits and Continuity		11m
	Review: Derivatives		17m
	Review: Applications of Derivatives		21m
	Review: Integrals		25m

Review	Review: Applications of Integrals		11m
	Review: Differential Equations		7m
	Practice Exam 1 - Part A	1. Solve problems involving slope of a tangent line.	17m
		2. Interpret limits expressed symbolically.	
		3. Determine limits of functions.	
		4. Express limits symbolically using correct notation.	
		5. Estimate limits of functions.	
		6. Express the limit of a Riemann sum in integral notation.	
		7. Evaluate definite integrals.	
		8. Deduce and interpret behavior of functions using limits.	
		9. Interpret the definite integral as the limit of a Riemann sum in integral notation.	
		10. Interpret the meaning of a derivative within a problem.	
		11. Identify the derivative of a function as the limit of a difference quotient.	
		12. Determine higher-order derivatives.	
		13. Interpret the meaning of a definite integral within a problem.	
		14. Calculate derivatives.	
		15. Apply definite integrals to problems involving the average value of a function.	
		16. Determine the applicability of important calculus theorems using continuity.	
		17. Calculate antiderivatives.	
		18. Analyze differential equations to obtain general and specific solutions.	
		19. Recognize the connection between differentiability and continuity.	
		20. Calculate a definite integral using areas and properties of definite integrals.	
		21. Verify solutions to differential equations.	
		22. Analyze functions for intervals of continuity or points of discontinuity.	
		23. Recognize antiderivatives of basic functions.	
		24. Analyze functions defined by an integral.	
	Practice Exam 1 - Part B	1. Solve problems involving rates of change in applied contexts.	15m
		2. Estimate solutions to differential equations.	
		3. Apply the mean value theorem to describe the behavior of a function over an interval.	
		4. Apply definite integrals to problems involving motion.	
		5. Solve problems involving related rates, optimization, and rectilinear motion.	
		6. Solve problems involving slope of a tangent line.	
		7. Use the definite integral to solve problems in various contexts.	
		8. Interpret, create, and solve differential equations from problems in contexts.	
		9. Apply definite integrals to problems involving areas and volume.	
		10. Use derivatives to analyze properties of a function.	
		11. Approximate a definite integral.	
		12. Estimate derivatives.	
	Practice Exam 1 - Free Response Section		3h 1m
		1. Solve problems involving slope of a tangent line.	
		2. Express limits symbolically using correct notation.	
		3. Deduce and interpret behavior of functions using limits.	
		4. Determine limits of functions.	
		5. Estimate limits of functions.	
		6. Interpret limits expressed symbolically.	
		7. Analyze functions for intervals of continuity or points of discontinuity.	
		8. Determine the applicability of important calculus theorems using continuity.	

	Practice Exam 2 - Part A	9. Interpret the definite integral as the limit of a Riemann sum in integral notation.	17m
		10. Identify the derivative of a function as the limit of a difference quotient.	
		11. Calculate derivatives.	
		12. Recognize antiderivatives of basic functions.	
		13. Verify solutions to differential equations.	
		14. Recognize the connection between differentiability and continuity.	
		15. Interpret the meaning of a derivative within a problem.	
		16. Determine higher-order derivatives.	
		17. Analyze functions defined by an integral.	
		18. Calculate antiderivatives.	
		19. Evaluate definite integrals.	
		20. Express the limit of a Riemann sum in integral notation.	
		21. Calculate a definite integral using areas and properties of definite integrals.	
		22. Interpret the meaning of a definite integral within a problem.	
		23. Analyze differential equations to obtain general and specific solutions.	
		24. Apply definite integrals to problems involving the average value of a function.	
	Practice Exam 2 - Part B	1. Use the definite integral to solve problems in various contexts.	15m
		2. Apply the Mean Value Theorem to describe the behavior of a function over an interval.	
		3. Estimate solutions to differential equations.	
		4. Estimate derivatives.	
		5. Approximate a definite integral.	
		6. Solve problems involving rates of change in applied contexts.	
		7. Use derivatives to analyze properties of a function.	
		8. Solve problems involving slope of a tangent line.	
		9. Solve problems involving related rates, optimization, and rectilinear motion.	
		10. Apply definite integrals to problems involving areas and volume.	
		11. Interpret, create, and solve differential equations from problems in contexts.	
		12. Apply definite integrals to problems involving motion.	
	Practice Exam 2 - Free Response Section		3h 1m