

Exam 0 Review Topics

Section	Topics	Problems
3.1	Definition of the Derivative Limit of a Difference Quotient Interpretation of the Derivative Slope of the Tangent Line Instantaneous Rate of Change Equation of the Tangent Line	Page 108 22, 23, 26, 30, 32
3.2	Techniques of Differentiation Constant Function Power Function: x^n Constant Multiple Rule Sum Rule Linearity Rule Product Rule Quotient Rule Higher Order Derivatives Notation	Page 117 11, 14, 15, 17, 18, 19, 25, 26, 28, 30, 32
3.3	Derivatives of Special Functions Trigonometric Functions $\sin x$, $\cos x$, $\tan x$, $\sec x$, $\cot x$, $\csc x$ Exponential Function: e^x Logarithmic Function: $\ln x$	Page 125 3, 6, 7, 8, 10, 12, 15, 17, 20, 23, 25, 29, 31, 47, 49, 52
3.5	Chain Rule Extended Rules	Page 143 14, 16, 17, 19, 21, 22, 23, 24, 25, 27, 29, 30, 33, 35, 38
3.6	Implicit Differentiation Derivatives of Inverse Functions $\sin^{-1} x$, $\cos^{-1} x$, $\tan^{-1} x$, $\sec^{-1} x$, $\cot^{-1} x$, $\csc^{-1} x$ Derivatives of Exponential and Logarithm Functions with base b Logarithmic Differentiation	Page 155 2, 5, 6, 7, 12, 19, 23, 26, 34, 36
5.1	Anti-Differentiation Basic Integration Rules Theorem 5.2 (Page 275)	Page 281 3, 6, 9, 12, 15, 17, 19, 22, 25, 30
5.4	First Fundamental Theorem of Calculus Area Under a Curve Second Fundamental Theorem of Calculus	Page 308 3, 9, 10, 15, 16, 19, 20, 25, 26, 27, 31, 34, 39, 41, 42
5.5	Integration by Substitution Definite Integrals Change of Limits	Page 315 1, 3, 6, 8, 9, 14, 19, 22, 27, 30, 31, 35, 38, 43