

# MATH 100 Recommended Practice Problems

(12th edition of *Calculus of a Single Variable* by Larson and Edwards)



SECTION	EXERCISES
P.1 Graphs and Models	3, 4, 5, 6, 23, 25, 31, 37, 43, 47, 59, 63
P.2 Linear Models and Rates of Change	11, 17, 23, 31, 45, 47, 57, 59, 65
P.3 Functions and Their Graphs	11, 19, 23, 25, 29, 37, 45, 49, 53, 57, 59, 69, 81
P.4 Review of Trigonometric Functions	9, 11, 19, 21, 31, 35, 37, 39, 43, 49, 61, 69
1.1 A Preview of Calculus	7, 9
1.2 Finding Limits Graphically and Numerically	7, 11, 13, 15, 17, 29, 33, 35, 37, 49, 51, 79, 81
1.3 Evaluating Limits Analytically	7, 11, 15, 21, 29, 35, 45, 47, 51, 53, 57, 61, 63, 65, 73, 87, 89, 105, 115, 119, 122
1.4 Continuity and One-Sided Limits	5, 7, 9, 13, 15, 17, 19, 31, 33, 35, 39, 41, 47, 49, 55, 57, 65, 71, 77, 87, 91, 93, 95, 105, 109, 115
1.5 Infinite Limits	3, 5, 7, 9, 21, 23, 27, 29, 31, 33, 35, 37, 41, 43, 45, 55, 59, 61, 67
2.1 The Derivative and the Tangent Line Problem	11, 15, 19, 21, 25, 27, 31(a), 33(a), 39, 43, 53, 71, 75, 79, 81, 87, 91
2.2 Basic Differentiation Rules and Rates of Change	7, 9, 11, 13, 15, 17, 21, 23, 25, 29, 31, 35, 39, 43, 47, 49, 57(a), 59, 65, 79, 85, 91, 95
2.3 Product and Quotient Rules and Higher-Order Derivatives	5, 7, 9, 11, 13, 15, 19, 21, 23, 25, 27, 29, 33, 35, 39, 41, 43, 45, 47, 49, 55, 63, 67(a), 71, 75, 85, 89, 93, 99, 133
2.4 The Chain Rule	9, 11, 13, 15, 19, 25, 27, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 61, 67, 71(a), 75(a), 79, 83, 85, 99
2.5 Implicit Differentiation	5, 9, 13, 15, 17, 19, 21, 25, 27, 29, 31, 35, 37, 39, 49
2.6 Related Rates	3, 5, 7, 9, 11, 13, 15, 17, 21, 23, 25, 27, 29, 37, 41, 43, 45
3.1 Extrema on an Interval	15, 19, 21, 25, 27, 29, 31, 33, 37, 39, 43, 57
3.2 Rolle's Theorem and the Mean Value Theorem	3, 5, 9, 11, 15, 17, 19, 23, 29, 33, 34, 37, 39, 41, 43, 45, 47, 53, 63
3.3 Increasing and Decreasing Functions and the First Derivative Test	11, 13, 17, 21, 25, 29, 31, 33, 35, 37, 41, 45, 47, 57, 59, 61, 67, 81, 95
3.4 Concavity and the Second Derivative Test	3, 4, 5, 7, 9, 13, 15, 17, 21, 23, 25, 31, 35, 37, 39, 41, 43, 49, 53, 55
3.5 Limits at Infinity	13, 15, 19, 21, 23, 27, 29, 31, 33, 35, 41, 43
3.6 A Summary of Curve Sketching	9, 15, 19, 21, 23, 27, 29, 33, 37, 41, 59, 64, 78
3.7 Optimization Problems	5, 7, 11, 13, 15, 19, 21, 23, 27, 33, 35, 47
3.8 Newton's Method	3, 9, 11, 13, 15, 17, 19, 23, 31
3.9 Differentials	7, 9, 13, 15, 19, 21, 23, 25, 27, 33, 35, 37, 39, 41, 43, 45
4.1 Antiderivatives and Indefinite Integration	5, 9, 13, 17, 19, 25, 27, 29, 31, 33, 35, 39, 43, 45, 49, 53, 61, 67
4.2 Area	7, 9, 11, 13, 17, 19, 21, 25, 31, 33, 39, 47, 51, 55
4.3 Riemann Sums and Definite Integrals	5, 9, 17, 19, 23, 27, 29, 31, 39, 41, 43, 47(a-e)
4.4 The Fundamental Theorem of Calculus	11, 15, 17, 19, 23, 25, 29, 33, 35, 37, 39, 41, 45, 49, 51, 53, 57, 59, 63, 65, 71, 73, 75, 79, 83, 85, 107
4.5 Integration by Substitution	5, 7, 9, 17, 23, 27, 29, 33, 39, 43, 45, 47, 53, 57, 61, 65, 69, 77, 81, 93, 95, 97
8.6 Numerical Integration	7, 9, 17, 23
5.1 The Natural Logarithmic Function: Differentiation	5, 7, 9, 19, 21, 23, 27, 31, 35, 43, 45, 51, 53, 55, 59, 63, 65, 71, 73, 77, 85, 97
5.2 The Natural Logarithmic Function: Integration	5, 7, 9, 13, 15, 19, 21, 23, 25, 27, 33, 35, 39, 41, 43, 51, 53, 57, 61, 69, 71, 75, 85, 86, 87, 91
5.3 Inverse Functions	9, 15, 21, 23, 29, 31, 43, 47, 59, 63, 67, 69, 71, 75, 95
5.4 Exponential Functions: Differentiation and Integration	3, 7, 9, 11, 17, 19, 23, 33, 35, 39, 43, 45, 49, 51, 53, 61, 63, 67, 75, 79, 93, 97, 101, 105, 109, 111, 113, 117, 125
5.5 Bases Other Than $e$ and Applications	5, 11, 13, 15, 17, 21, 23, 25, 27, 33, 39, 41, 45, 51, 55, 65, 67, 69, 73, 77
6.2 Growth and Decay	5, 7, 9, 11, 13, 15, 19, 21, 23, 33, 41, 57, 60, 67
6.3 Separation of Variables and the Logistic Equation	9, 11, 13, 19, 21, 23, 25