

**MATH 101 Recommended Practice Problems**  
 (10th edition of *Calculus of a Single Variable* by Larson and Edwards)



SECTION	EXERCISES
5.6 Inverse Trigonometric Functions: Differentiation	3, 5, 7, 11, 17, 21, 23, 25, 29, 33, 35, 39, 41, 43, 45, 47, 53, 55, 57, 71, 91, 95
5.7 Inverse Trigonometric Functions: Integration	1, 3, 5, 9, 11, 13, 15, 17, 19, 21, 23, 29, 33, 37, 39, 53, 65
5.8 Hyperbolic Functions	1, 3, 7, 11, 15, 27, 29, 31, 33, 35, 37, 45, 47, 49, 57, 59, 65, 67, 69, 73, 81, 93
7.1 Area of a Region Between Two Curves	3, 5, 7, 11, 19, 23, 25, 27, 39, 41, 61, 79, 83, 85
7.2 Volume: The Disk Method	1, 3, 9, 11, 13, 17, 21, 27, 57, 60, 61, 71, 72(c)
7.3 Volume: The Shell Method	1, 3, 7, 15, 17, 25, 29, 47, 49
7.4 Arc Length and Surfaces of Revolution	1, 5, 7, 15, 17, 19, 31, 35, 37, 43, 55, 56, 57
7.5 Work	1, 3, 5, 7, 9, 11, 13, 15, 16, 17, 19, 21
7.6 Moments, Centers of Mass, and Centroids	15, 17, 19, 37, 39, 49 ( $A=\pi ab/2$ )
7.7 Fluid Pressure and Fluid Force	1, 7, 11, 15, 21
8.1 Basic Integration Rules	7, 9, 13, 21, 23, 25, 27, 33, 37, 41, 45
8.2 Integration by Parts	9, 11, 15, 17, 21, 23, 27, 29, 41, 45, 49, 51, 71, 79, 83(d)
8.3 Trigonometric Integrals	1, 3, 5, 7, 9, 11, 21, 23, 27, 31, 43, 49, 51, 53, 55, 57, 59, 61, 63
8.4 Trigonometric Substitution	5, 7, 9, 11, 13, 15, 21, 23, 27, 31, 39, 43, 61, 67
8.5 Partial Fractions	7, 9, 11, 13, 15, 17, 19, 23, 25, 36, 43
8.6 Integration by Tables and Other Integration Techniques	1, 3, 7, 11, 15, 21, 23, 45, 52
8.7 Indeterminate Forms and L'Hôpital's Rule	5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 29, 31, 35, 45, 47, 49, 51, 55, 57, 59, 95, 96, 111(c)
8.8 Improper Integrals	9, 11, 17, 19, 21, 27, 29, 31, 33, 35, 37, 39, 41, 83
9.1 Sequences	1, 3, 5, 7, 13, 15, 17, 19, 21, 23, 29, 31, 33, 35, 37, 45, 46, 47, 49, 51, 52
9.2 Series and Convergence	3, 5, 7, 9, 11, 13, 15, 17, 19, 25, 27, 31, 39, 41, 43, 45
9.3 The Integral Test and $p$ -Series	1, 5, 7, 9, 35, 55, 57, 59, 61, 73, 77, 81
9.4 Comparisons of Series	3, 4, 6, 11, 15, 17, 19, 23, 25, 27, 29, 49, 50, 51, 52, 53, 54
9.5 Alternating Series	5, 7, 9, 13, 15, 17, 19, 21, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 59
9.6 The Ratio and Root Tests	13, 15, 17, 19, 21, 25, 27, 29, 31, 59, 63
9.7 Taylor Polynomials and Approximations	15, 17, 19, 25, 27, 29, 43, 45, 59, 60, 61, 62, 63
9.8 Power Series	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 47(a,b,d), 73, 74, 75

9.9 Representation of Functions by Power Series	5, 9, 11, 15, 19, 21, 25, 35, 37
9.10 Taylor and Maclaurin Series	1, 7, 27, 31, 35, 37, 39, 41, 43, 51, 53, 57, 63, 65, 73
10.1 Conics and Calculus	1, 2, 3, 4, 5, 6, 11, 27, 37, 51, 53, 55, 57 [omit focus, directrix and eccentricity in 11, 27 and 37]
10.2 Plane Curves and Parametric Equations	3, 5, 15, 17, 21, 25, 31, 39, 75
10.3 Parametric Equations and Calculus	7, 11, 13, 21, 23, 29, 31, 35, 45, 47, 51, 65, 67 [omit $d^2y/dx^2$ and concavity in 7, 11 and 13]
10.4 Polar Coordinates and Polar Graphs	1, 3, 11, 13, 25, 27, 29, 33, 35, 39, 43, 45, 59, 65, 67, 79, 81, 83, 85
10.5 Area and Arc Length in Polar Coordinates	1, 3, 9, 11, 15, 17, 27, 29, 31, 35, 37, 41, 51, 53, 55, 63, 65, 77