

# MATH 171 – Calculus II

## MATH 171 · SUGGESTED HOMEWORK · SPRING 2023

Section	Exercises
§ 5.2: The Indefinite Integral	20, 25, 32, 44, 46
§ 5.3: Integration by Substitution	34, 37, 38, 46, 50, 53, 58, 59, 70, 71
§ 5.5: The Definite Integral	15, 19, 23, 24, 27, 28, 34, 37, 38
§ 5.6: The FTC	15, 17, 20, 21, 24, 26, 29
§ 5.9: Definite Integrals by Substitution	15, 20, 22, 33, 36, 38, 39, 40, 41, 42, 43, 44, 45, 49, 50, 53
§ 3.6: L'Hopital's Rule	7, 10, 12, 18, 20, 21, 23, 24, 25, 27, 28, 32, 42
§ 5.4: Sigma Notation	1, 3, 5, 7, 8, 13, 15, 19, 27, 35 (we will ignore mid-point method portions)
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§ 6.2: Volumes by Slicing	1, 2, 11, 13, 17, 18, 34, 40
§ 6.3: Volumes by Cylindrical Shells	2, 5, 9, 10, 11, 25, 29
§ 6.2: Volumes by Slicing (2)	23, 24, 26, 41, 42, 43, 44
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§ 6.6: Work (1)	1, 2, 5, 6, 9, 14, 19(a)
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§ 7.3: Trigonometric Integrals	9, 17, 25, 29, 30, 33, 34, 39, 43, 45, 48
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§ 7.4: Trig Substitutions (2)	5, 16, 17, 25, 39, 47
§ 7.5: Partial Fractions (1)	3, 9, 13, 15, 17, 21, 25
§ 7.5: Partial Fractions (2)	5, 16, 24, 29, 33, 39
§ 7.6: Integral Tables (1)	5, 7, 13, 19, 31, 37, 55, 60, 90
Chapter 7 Review	Integration Worksheet 2
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§ 7.7: Numerical Integration (1 & 2)	1, 5 (n=10 for all), 25, 41, 43, 45, 52 [All problems: ignore midpoint method]

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Section	Exercises
§ 7.8: Improper Integrals (1)	1, 3, 7, 8, 10, 15, 17, 19
§ 7.8: Improper Integrals (2)	5, 16, 25, 28, 47, [read 52], 55(re-read 52a)
§ 8.1: Modeling with Differential Equations	1, 3, 6, 7, 10, 13, 14(b), 16, 19, 20, 35
§ 8.2: Introduction to Differential Equations	2, 6, 7, 9, 12, 13, 25, 29, 33 (#9: look up integral for $\csc x$ )
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§ 9.1: Sequences	1, 4, 7, 9, 12, 13, 15, 17, 23, 25, 27
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§ 9.3: Infinite Series (1)	1a, 3, 5, 11, 13, 15
§ 9.3: Infinite Series (2)	1c, 2, 7, 9, 12, 14, 16(a, b), 17-20
§ 9.3: Infinite Series (3)	6, 10, 28 & get caught up
§ 9.4: Convergence Tests (1)	3, 5, 7, 9, 14, 15, 18, 23
§ 9.4: Convergence Tests (2)	11, 12, 17, 19, 21, 22, 31-34, Read: 36
§ 9.5: Comparison and Ratio Tests (1)	1, 3, 4, 5, 9, 14, 15, 25, 27, 28, 30, 31, 33, 34, 43
§ 9.5: Comparison and Ratio Tests (2)	35 - 41, 44, 45, 46, 47, 49
§ 9.5: Comparison and Ratio Tests (3)	37, 39, 53(b) & get caught up
§ 9.6: Alternating Series (1)	2, 7, 9, 13-17, 21, 23
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§ 9.6: Alternating Series (3)	18, 20 & get caught up
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§ 9.10: Differentiating and Integrating	5, 7(a), 8(a), 21(b), 22(b), 26, 31(first 3 terms), 32, 36(a-d), 37
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