MATH 233 – Calculus III

MATH 233 · SUGGESTED HOMEWORK · FALL 2018

Section	Exercises
§ 10.2: Polar Coordinates	1(a,c,e), 3(a,c,d,f), 5(a,e), 9, 10(b,c), 11, 17, 21, 23, 27, 41
§ 10.4: Conic Sections	1, 5(a), 10, 14(a), 23(a), 25(a)
§ 11.1: Coordinates in 3-Space	3, 11, 15, 25, 27, 31, 37, 39, 47
§ 11.2: Vectors (1)	3, 5, 7, 9, 11, 13, 21, 29
§ 11.2: Vectors (2)	12, 15, 30, 31, 33
§ 11.3: Dot Product; Projections (1)	1, 3, 5, 11, 13, 15(a), 25, 27
§ 11.3: Dot Product; Projections (2)	7, 24, 26, 35, 39, 46
§ 11.4: Cross Product (1)	1, 3, 7, 11, 19, 21
§ 11.4: Cross Product (2)	23, 27, 28, 29, 37
§ 11.5: Parametric Equations, Lines	1(b), 3(b), 7, 9, 17, 21, 29
§ 11.6: Planes in 3-Space (1)	1, 3, 9, 11, 13, 13, 18, 25, 29
§ 11.6: Planes in 3-Space (2)	12, 15, 27, 31, 43
§ 11.7: Quadric Surfaces	1, 7, 10, 23(use Table 11.7.1), 37, 39
§ 13.1: Functions of Two Variables	1(d,e), 11(a), 17(c,e), 19, 23, 26
§ 13.2: Limits and Continuity	3, 5, 7, 9, 13, 15, 16, 17, 37
§ 13.3: Partial Derivatives	5, 16, 25, 29, 31, 35, 37, 39, 43, 49, 85, 91, 95, 101(a)
§ 13.4: Differentiability, Local Linearity (1)	3, 11, 15, 17, 19, 21, 23, 33, 35, 47, 49 (will need a calculator for a few)
§ 13.5: The Chain Rule (1)	1, 2, 3, 5, 17, 19, 25
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§ 13.6: Directional Derivatives (1)	1, 2, 3, 5, 7, 9, 11, 17, 19, 20, 29
§ 13.6: Directional Derivatives (2)	31, 32, 33, 35, 43, 45, 53, 56, 71
§ 13.7: Tangent Planes and Normal Vectors	3, 7, 11, 12, 13, 25, 27
§ 13.8: Maxima and Minima (1)	5, 7, 9, 13, 14, 16, 27
§ 13.8: Maxima and Minima (2)	29, 31, 37, 38, 43
§ 13.9: Lagrange Multipliers	1, 7, 9, 19, 25, 29
§ 14.1: Double Integrals	5, 7, 9, 13, 15, 29, 31, 33
§ 14.2: Double Integrals, Nonrectangular (1)	3, 5, 7, 9, 15, 19, 23
§ 14.2: Double Integrals, Nonrectangular (2)	10, 17, 25, 39, 47, 49, 52, 53, 55
§ 14.3: Double Integrals in polar coord (1)	1, 3, 5, 8, 13, 17,23, 27

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§ 14.3: Double Integrals in polar coord (2)	14, 15, 19, 26, 29, 33	
§ 14.4: Surface Area; Parametric Surfaces	1, 3, 6, 11, 15, 29, 35, 39	
§ 14.5: Triple Integrals (1)	1, 3, 5, 7, 9, 15	
§ 14.5: Triple Integrals (2)	6, 10, 11, 21, 25	
§ 14.5: Triple Integrals (3)	16, 17, 23, 26(a,b), 39	
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§ 11.8: Cylindrical and Spherical Coord	1, 3, 5, 7, 19, 25, 29, 39, 43	
§ 14.6: Triple Integrals in Cylindrical (1)	1, 5, 9, 10, 17	
§14.6: Integrals Cylindrical and Spherical (2)	3, 7, 13, 14, 19	
§14.6: Integrals Cylindrical and Spherical (3)	16, 18, 23, 27, 29	
§ 15.1: Vector Fields	1, 2, 3, 15, 17, 21, 23, 25, 27, 37	
§ 15.2: Line Integrals (1)	1, 13(a,b), 19, 21, 23, 25	
§ 15.2: Line Integrals (2)	7, 9, 33, 37, 39, 45, 47, 49	
§ 15.3: Independence of Path	1, 3, 5, 7, 13, 17, 23, 27	
§ 15.3: Independence of Path § 15.4: Green's Theorem		
§ 15.4: Green's Theorem	1, 3, 7, 9, 11	
§ 15.5: Surface Integrals	1, 5, 19, 27, 29	
§ 15.6: Surface Integrals; Flux	1, 5, 11, 13, 19	
§ 15.7: The Divergence Theorem (1)	1, 3, 9, 13, 15	
§ 15.7: The Divergence Theorem (2)	11, 12, 14, 17	
§ 15.8: Stokes' Theorem (1)	1, 3, 5, 7	
§ 15.8: Stokes' Theorem (2)		
Exam 3		