

Mathematics 20D (Calculus), 1999 Winter Quarter

Homework Assignments (Section B00)

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Topics Covered: Series, convergence tests; series solutions and Laplace transform methods for differential equations; algebra and geometry of vectors, dot and cross product; parametric curves in the plane and in space, tangent and normal; gradient.

Text Material: The following material from the Stewart text will be covered (in this order):
Chapter 10: §10.1-§10.10
Chapter 15: §15.8, along with the supplementary notes on the Laplace Transform
Chapter 11: §11.1-§11.10
Chapter 13: §13.1-§13.6

Previous Background: The student is assumed to have previously had limited introductory exposure (in Math 20B and 20C) to some of the following sections in the above chapters (we develop some of this material much more thoroughly in 20D):
Chapter 10: §10.1-§10.2
Chapter 15: §15.1-§15.2, §15.5-§15.6
Chapter 11: §11.1-§11.3, §11.5
Chapter 13: §13.1-§13.3, §13.7

The first set of reading & homework assignments from the Stewart text (material to be covered on the first midterm and the final):

Week 1 (due Jan. 8): §10.1: 4, 10, 13, 17, 22, 56, 60, 62, 66; §10.2: 4, 17, 25, 39, 54, 55, 66, 67
Week 2 (due Jan. 15): §10.3: 5, 22, 26; §10.4: 6, 14, 30, 37, 46; §10.5: 8, 10, 16, 22; §10.6: 5, 17, 41
Week 3 (due Jan. 22): §10.8: 1, 10, 14, 25, 34, 35; §10.9: 5, 7, 14, 22, 35; §10.10: 5, 15, 36
Week 4 (due Jan. 29): §15.8: 1, 3, 4, 5, 7, 8, 10, 11 (Midterm 1 on Jan. 28th)

The second set of reading & homework assignments from the Stewart text and the Laplace Transform Notes (material to be covered on the second midterm and the final):

Week 5 (due Feb. 5): Laplace Transform Notes: 1, 5, 7, 8, 9; §11.1: 7, 10, 14, 19, 27, 50
Week 6 (due Feb. 12): §11.2: 10, 13, 22, 26; §11.3: 17, 27, 40, 43, 62; §11.4: 3, 11, 22, 25, 36
Week 7 (due Feb. 19): §11.5: 3, 12, 20, 29, 31, 53, 57, 64; §11.6: 3, 17, 28, 29, 43, 45
Week 8 (due Feb. 26): §11.7: 10, 26, 32, 43, 47, 58, 64 (Midterm 2 on Feb. 25th)

The third set of reading & homework assignments from the Stewart text (additional material to be covered on the final):

Week 9 (due March 5): §11.8: 1, 7, 18, 24, 28, 41, 43, 44, 45; §11.9: 5, 10, 14, 28, 32;
Week 10 (due March 12): §11.10: 1, 12, 17, 22, 52; (Chapter 13 problems to be announced later)