

Math 103.01 Summer 2001
Daily Problem Sets

During the summer, with new material being introduced everyday, it is imperative that you do your very best to keep up. Many of the concepts introduced will be new and completely unfamiliar to you; especially the calculus of vector-valued functions. For this reason it is important that you attempt as many of these problems as you can each day. The first 30 or so problems in each section are, for the most part, rote computations. I've listed a sampling of these problems that, at a minimum, you should do. Doing these should help you gain some feel for the objects we are going to be working with. The later problems in each section are more theoretical and/or involved and I've singled out the ones representative of what I think is important. Again, I cannot underestimate the importance of keeping up.

Day	Date	Section	Page and Problems
1	May 17	12.1	713 #1, 4, 6, 7, 11, 12, 13, 17, 20, 23, 27, 29, 31, 35, 38, 50, 52
		12.2	723 #1, 2, 5, 7, 8, 11, 19, 22, 23, 25, 31, 32, 33, 35, 38, 39, 42, 43 47, 53, 61, 62, 65
2	May 18	12.1,2	Finish problems from Sections 12.1 and 12.2
		12.3	732 #1, 2, 3, 5, 7, 9, 10, 11, 12, 15, 18, 19, 21, 23, 32, 33
3	May 21	12.4	740 #2, 3, 7, 9, 12, 14, 15, 17, 19, 21, 24, 25, 27, 29, 30, 32, 33, 37 40, 44, 52, 53, 56, 60, 62, 66
4	May 22	10.4	592 #1, 5, 7, 9, 14, 16, 18, 26
		12.5	753 #1, 2, 3, 4, 5, 6, 9, 11, 14, 17, 18, 20, 21, 24, 25, 28, 31, 33, 35 36, 42, 49, 54, 55, 56, 57
5	May 23	12.6	770 #1, 2, 6, 7, 9, 10, 11, 21, 23, 34, 47, 49, 50, 53, 54, 55
6*	May 24	12.7	782 #1, 3, 7, 9, 13, 15, 21, 22, 25, 28, 29, 30, 43, 50, 51, 52, 53, 54
7*	May 25	13.2	803 #3, 7, 11, 12, 14, 15, 25, 27, 29, 32, 33, 34, 37, 39, 41, 43, 44, 53 54, 55, 56, 57, 58
		13.3	811 #1, 5, 10, 11, 13, 14, 17, 18, 24, 27, 30, 37, 38, 39, 40, 43, 45, 51
8	May 28	13.4	820 #1, 3, 4, 5, 6, 7, 19, 22, 31, 35, 41, 43, 13 and 53, 55, 57a, 57c 58a, 58c, 73
9	May 29	13.5	831 #1, 2, 9, 12, 18, 23, 25, 26, 27, 28, 32, 38
		13.10	879 #1, 2, 3, 7, 8, 14, 15, 20, 23
10	May 30	13.7	851 #3, 7, 9, 10, 13, 14, 15, 19, 25, 28, 36, 40, 43, 45
11	May 31	13.8	861 #2, 3, 6, 8, 11, 14, 17, 19, 25, 26, 30, 33, 35, 36, 37, 39, 40, 44
12	June 1	13.9	870 #5, 10, 14, 15, 24, 30, 36
13	June 4		Test I
14	June 5	14.1	891 #3, 15, 11, 12, 17, 19, 24, 30, 31, 32, 34
		14.2	898 #1, 3, 4, 5, 11, 12, 15, 16, 18, 22, 23, 27, 30, 31, 41, 42

Day	Date	Section	Page and Problems
15	June 6	14.3	903 #1, 3, 7, 11, 13, 16, 18, 22*, 24, 28*, 30*, 37
16	June 7	10.2	578 #1, 2 ($r > 0$ only), 3, 6, 7, 8, 9, 11, 21, 24, 25, 39, 41, 42, 53, 56
		14.4	911 #1, 2, 6, 10, 12, 13, 14, 15, 18, 23, 28, 29, 34, 38
17	June 8	14.6	930 #1, 2, 3, 6*, 8, 10, 11, 12, 14, 17
18	June 11	12.8	789 #1, 9, 15, 17, 23, 26, 27, 29, 30, 31, 33, 39, 40, 44, 55
		13.7	853 #59
		14.7	938 #1, 3, 5, 10, 13, 14, 15, 29, 37, 38
19*	June 12	14.8	945 #1, 2, 3, 7, 13, 15, 17, 18
20*	June 13	15.1	964 #1, 2, 3, 6, 9, 10, 11, 12, 15, 17, 18, 20, 21, 28, 32, 35, 37, 38, 40
21	June 14	15.2	974 #1, 2, 3, 4, 5, 6, 10, 11, 12, 14, 16, 17, 18, 34, 36
22	June 15	15.3	982 #1, 4, 9, 11, 14, 24, 26, 27, 28, 29, 30, 32, 35
23	June 18		Test II
24	June 19	15.4	991 #2, 3, 8, 9, 15, 16, 18, 22, 36, 38
25	June 20	15.5	1001 #1, 2, 3, 4, 5, 6, 10, 14, 15, 18, 23
26*	June 21	15.6	1009 #1, 2, 3, 4, 6, 7, 8, 11, 12, 15, 16, 17, 18, 19
27	June 22	15.7	1017 #1, 2, 5, 8, 10, 13, 14, 16, 17
28	June 25		Review
29	June 27		Final Exam

* Only set up these integrals. Do not evaluate.

Notes and Comments

Day 6

This section would best be done in front of a computer running Maple. It may be helpful to compare your hand-drawn graphics to (the possibly more accurate!) drawn-to-scale computer-generated graphics. If you have time, try plotting most of the equations in #1 - #30 and #55 - #72. However, you should be able to do #50 - #54 by hand. You will need to be able to compute such things later on when we integrate.

Day 7

Section 13.3 Problems #47, 48, 49, 50 would be good to do if you are using Maple. Also read problem #55 on page 755. What about $\lim_{t \rightarrow a}(\mathbf{u} \times \mathbf{v})$?

Day 19

Section 14.7 Problems #25, 26, 27, 28 would be good to do if you are using Maple

Day 20

It would be valuable to read problems #25 - #44 and think about how you would do them.

Day 26

Problems #18 and #19 will be important if you are an engineer.