

# Math 513 (071)

## Suggested and Homework Problems

\* Do the MATLAB part

Section	Suggested	Homework	Remark
4.1	All	2*	Fourier spectrum is not required
4.2	1, 2	1	
4.3	1–14	2*	
4.4	1–4	1	
4.5	1–6	6	
4.6	1–5	3	
5.1	1–6	3*	Complete the square of the power and use $\int_0^{\infty} u^2 du = \text{sqrt}(\pi)/2$
5.2	1–4	4	
5.3	1–6	4, 6*	Solve 6 for cosine instead of sine. Find the carrier frequency and amplitude
5.5	1–6	1*	
5.6	1–3	1	
6.1	1–14	6*, 12*	Use "laplace" to verify your answer
6.2	All	x	
6.3	1–45	16*, 31*	
6.4	All	x	
6.5	1–4	x	
6.6	1–12	10*	
6.7	1–15	15	
6.8	1–28	21	
6.9	1–8	2	
9.1	All	4, 12	Solutions for Cauchy Euler equation are $x^m$ . $e^{2mi} = 1$
9.2	All	4	
9.3	1–4	4	
9.4	1–6	6*	
9.5	20–25	24*	
10.3	1–8	4*	
10.4	1–6	2*	
10.5	1–9	4	
11.3	1–17	8*, 12*	Plot solution vs space at different times.
11.4	1–9	4*	Plot your result using MATLAB
11.5	1–5	4	
12.3	1–12, 15, 18, 28	4*, 18, 28, 31	For Ex 4 plot the surface only. Interpret the graph.
12.4	1–5	4	
12.5	1, 2	2	
12.6	1, 2	2	