

Differential Equations



More Info

Assignments

Each homework assignment has two parts:

Part I of each problem set consists of problems which are either rather routine or for which solutions are available in the back of the book, or in 18.03 Notes and Exercises by Prof. Mattuck.

Part II contains more challenging and novel problems. They will help you develop an understanding of the material.

[EP] refers to a problem in the course textbook: Edwards, C., and D. Penney. *Elementary Differential Equations with Boundary Value Problems*. 6th ed. Upper Saddle River, NJ: Prentice Hall, 2003. ISBN: 9780136006138

[Notes] refers to an exercise in the "18.03 Notes and Exercises" written by Prof. Mattuck.

Most problem sets also contains one problem based around one the "Mathlets."

5	Problem set 1 (PDF)	Danklara ant 1. Dant II ank tions (DDF)
	Related Mathlet: <u>Isoclines</u>	Problem set 1: Part II solutions (<u>PDF</u>)
8	Problem set 2 (PDF)	
	Related Mathlet: Complex exponential	Problem set 2: Part II solutions (<u>PDF</u>)
	Problem set 3: First half (PDF)	
14	Related Mathlet: Phase lines	
	Problem set 3: Second Half (PDF)	Problem set 3: Part II solutions (<u>PDF</u>)
	Related Mathlet: <u>Damped vibrations</u>	
17	Problem set 4 (PDF)	
	Related Mathlets: Forced damped vibrations, Amplitude and phase: Second order I	Problem set 4: Part II solutions (<u>PDF</u>)
	Problem set 5: First half (PDF)	
23	Related Mathlet: Series RLC circuit	
	Problem set 5: Second half (PDF)	Problem set 5: Part II solutions (PDF)
	Related Mathlet: Fourier coefficients	
26	Problem set 6 (PDF)	Problem set 6: Part II solutions (<u>PDF</u>)
29	Problem set 7 (PDF)	Problem set 7: Part II solutions (PDF)
	Problem set 8: First half (PDF)	
34	Related Mathlet: <u>Amplitude response: Pole diagram</u>	
	Problem set 8: Second half (PDF)	Problem set 8: Part II solutions (<u>PDF</u>)
	Related Mathlet: Linear phase portrait: Matrix entry	
37	Problem set 9 (PDF)	
	Related Mathlet: <u>Linear phase portrait: Matrix entry</u>	Problem set 9: Solutions (PDF)



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