

DIFFERENTIAL EQUATIONS SUGGESTED PROBLEMS (BY SECTION)

M. AUTH

All problems from sections in "Elementary Differential Equations and Boundary Value Problems" 11th Ed. by Boyce and DiPrima (problems in parenthesis are the corresponding problems from the 10th edition). For exams and hw quizzes, I often choose problems similar to the suggested problems below. Also Arthur Mattuck has some good supplementary problems on 1. "First-order ODE's", 2. "Higher-order ODE's", 3. "Laplace transform", 6. "Power series", and 7. "Fourier series". You can find a link to these problems on our course webpage.

- 1.1: 1, 2, 5(8), 7(11), 9(13), 11(15), 13(17), 17(21), 19(23).
- 1.2: 3, 5, 12(15).
- 1.3: 1, 3, 5(7), 9(12), 10(14).
- 2.1: 1, 3, 6, 12(20), 17(27), 18(28), 25(35), 28(38).
- 2.2: 1, 2(3), 3(5), 4(6), 10, 17(21), 19(23), 25(30), 28(33).
- 2.3: 1, 2, 5(7), 10(14).
- 2.6: 1, 2, 3, 4(5), 9(13), 18(19), 21.
- 3.1: 1, 3, 4(5), 7(9), 9(12), 13(17), 14(19).
- 3.2: 1, 2, 3, 6(7), 10(13), 15(17), 17(22).
- 3.3: 1, 2(3), 3(4), 5(7), 6(8), 7(9), 12(17), 13(19).
- 3.4: 1, 2, 3, 10(12), 18(23).
- 3.5: 1, 2(3), 3(4), 8(11), 9(12), 12(16), 13(17).
- 3.6: 1, 2, 4(5), 9(12), 10(13).
- 3.7: 1, 2(4), 3(5), 7(12), 8(13).
- 3.8: 1, 2(3), 4(5), 7(11), 13(18), 14(19).
- 4.1: 1, 2(3), 5(7), 6(8), 8(12), 15(20).
- 4.2: 1, 2, 5(7), 8(11), 9(12), 28(38), 29(39).
- 4.3: 1, 2, 4(5), 10(13), 15(20), 16(21).
- 5.1: 1–4, 5(6), 7(9), 10(12), 11(13), 15(17), 18(21).
- 5.2: 1, 3(2), 6(5), 11(14).
- 5.4: 1, 2, 3, 4(5), 8(10), 12(17), 15(20), 19(26).
- 5.5: 1–4, 10(14).
- 6.1: 6(7), 8(11), 12(15), 16(21), 20(26), 21(27).
- 6.2: 1, 2, 3, 8(11), 9(12), 17(24).
- 10.1: 1, 2, 7, 8, 14, 15.
- 10.2: 13, 14, 15, 19.
- 10.3: 1, 2, 7, 13, 14, 15.
- 10.4: 7, 15, 16.
- 10.5: 1, 2, 7–10.