18.034 PROBLEM SET 8

Due April 21 in class. No lates will be accepted. Discussion is encouraged, with two caveats: (a) write up your solutions by yourself, and (b) give credit when others came up with ideas (you won't be penalized for this). Give explanations, not just answers. References are to Boyce and DiPrima; the answers to problems from the book are in the back of the book.

For the last three questions, you'll want to look through Section 7.8.

1. *Solving systems.* (a) Problem 7.5.1, p. 378. (b) Problem 7.5.9, p. 378. (c) Problem 7.6.1, p. 387. (d) Problem 7.7.1, p. 396.
2. *Euler-type equations.* (a) Problem 7.5.19, p. 379. (b) Problem 7.5.20, p. 379.
3. *Electrical circuits: quantitative and qualitative analysis.* Problem 7.6.26, p. 389.
4. *Long-term behavior of solutions.* Problem 7.7.17, p. 398, except don't do the comparison.
5. Problem 7.8.12, p. 404.
6. Problem 7.8.14, p. 404.
7. Problem 7.8.15, p. 404; a one-sentence explanation for (d) will suffice.

Date: April 14, 2000.