REVIEW SHEET FOR TEST 1

The best way to prepare for a test is to review homework problems, examples from the textbook and class notes. Do as many review problems as necessary. Make sure that you can solve these problems in a reasonable amount of time without reference to the textbook or class notes. It is important that on the test you show all your work and explain your answers. Just answers (especially wrong ones!) without any explanation will earn you no credit.

List of major topics covered in class.


2. Differential equations and their solutions. Review problems: # 1, 2, 3 on p. 33. Remember that you can always check your solution to the initial value problem by substituting it back into the equation and into the initial condition. Do it!


5. Euler’s method. You should understand and remember formulas on page 54. Review problems: # 1, 2, 5 on pp. 61-62.

6. Existence and uniqueness of solutions. You should know the statement of existence and uniqueness theorem and at least one example when a solution of the initial value problem is not unique. Review problems: 1, 3, 5, 9, 13, 18 on pp. 71-73.


Additional review problems: #1, 3, 5, 11, 13, 21, 25, 27, 31, 33, 35, 37, 39, 40, 41, 43, 47, 49, 54 on pp. 136-141.

GOOD LUCK!