MATH 242 University of South Carolina
D. Meade Spring 1995

Homework Problems for Chapter 2

Due: the class meeting following discussion in class

Section	Page	Problems
2.2	32	# 3, 8, 12, 19, 33
2.3	41	# 2, 9, 11, 19, 26
2.4	48	# 9, 14, 22, 29, 36
Review	65	# 1 – 8, 31, 33, 34

Notes

- These problems are chosen as the minimum set of problems that you should solve. If you are having difficulties after working these problems, there are plenty of unassigned problems that are very similar to the ones that have been assigned.
- The most common difficulty that students have with these problems is deciding which method to use for each problem. The key is to understand what it means for an ODE to be separable, exact, or linear. The problems in the Chapter Review will not be collected. However, they are an excellent source of practice problems when studying for the exam.
- The problems in each section can typically be divided into three different types.
  1. The first group of problems in each section ask you to classify the ODE. Realize that some ODEs can be classified as more than one type of ODE; this is not unusual. (Each of us can be classified in more than one group: male/female, Freshman/Sophomore/Junior/Senior, age, height, ... Why should ODEs be different?)
  2. The second group of problems involves finding the solution to an ODE or IVP. Be sure you understand the difference between a general solution to an ODE and a solution to an IVP.
  3. The last group of problems typically involves a physical application or some slight variation on the standard problem. Some of these can take longer to solve, but if you understand the basic concepts and follow the directions you should be able to work these problems.
- There are two uses of Maple that I see for these problems. The main use will be as a symbolic calculator: let Maple do the tedious integrals while you concentrate on the general ideas that apply to the different methods. You may also want to use Maple, in particular `DEplot` to "see" the differential equatequation and to verify that your solution is reason These will most likely be the first problems for which you will need to enter Maple commands on a blank worksheet. I'll try to model this in class.
- If you have any difficulties, please ask for assistance. For prompt replies, use e-mail.