

Math 244, Homework Set 1

Homework problems in the text that have a blue computer mouse next to them means that they should be done on a computer. For Sect. 1.1, try them by hand (think of fast ways of drawing the direction fields).

DATE	Homework
Sep 01	Section 1.1: 1,3,5, 7,8, 15-20, 22,23 Section 1.2: 1(a,b), 3, 8, 9, 15
Reading:	<ol style="list-style-type: none">1. According to our authors, what is a differential equation?2. What is a mathematical model?3. What is a <i>solution</i> to a differential equation?4. What is an <i>equilibrium</i> solution?5. How does a direction field help us find a solution to a differential equation?6. Our authors state that there is always a trade off between two things when modeling. What are they?
Sep 03	Sect 1.3: 1, 3, 5, 7, 9, 14, 15, 17, 19, 21, 25 Integral Practice (Handout)
Reading	Be sure you understand the definitions below (for the HW): <ul style="list-style-type: none">• ordinary (versus partial) differential equations• constants (or parameters) versus independent variable versus dependent variable.• order of a DE• linear (vs nonlinear) DE• linearization State the three important questions for a DE.

DATE	Homework
Sep 06	Sect 2.1: 1-7 odd, 13, 15, 16, 30, 35, 36 Sect 2.2: 1-7 odd, 9, 11, 16, 20 p. 49: 31, 33, 35
Sep 08	Sect 2.3: 3, 5, 9, 12, 13, 23, 28
Sep 10	Finish 2.1-2.3
Sep 13	Sect 2.4: 1, 3, 5, 7, 9, 13-15, 22-25 p. 77: 28, 29
Sep 15	Sect 2.5: 1, 3, 7, 8, 10, 11, 22, 23, 25, 26
Sep 17	Sect 2.6: 1, 3, 4, 13, 15, 18, 19, 22
Sep 20	Sect 2.6, continued
Sep 22	Review for Exam 1
Sep 24	Exam 1