MATH 226

Differential Equations

Assignment 21

Due Monday, May 5

Read Section 8.1 "Numerical Approximations: Euler's Method" and Section 8.2 "Accuracy of Numerical Methods" in Chapter 8*: Numerical Methods*

Problems

7.3 Bifurcation Exercises
Feedback Problems 7.3: 12, 15, 17
(Read Introductions/Instructions Which Precede Exercises)

NOTE: There is a typographical error in the equation for y' in Problem 12.
It should read $y' = -4x + y + x^2$.

Pictures Below: *Direction Fields Near (2,2) for System*
$$x' = x(4 - x - y)$$
$$y' = y(2 + 2a - y - ax)$$

$a = 3/4$ (left) $\qquad$ $a = 5/4$ (right)