

## SSM 553 - Nonlinear Systems - Spring 2009

Homework Set 2

due: Tuesday, February 17

From the textbook, Nonlinear Systems by Hassan Khalil, third edition, do the following problems from Chapter 2

1. Problem 2.17, parts (1) and (3), pg. 82

Hint: You may use whatever is best to show that the systems have periodic orbits, not necessarily Poincaré-Bendixson theory.

2. Problem 2.18, pg. 82
3. Problem 2.20, pg. 83
4. Problem 2.27, parts (1), (3) and (5), pg. 84