

MA 490/590 Homework 11

due Wednesday, 4/16

1. p. 210 Exercise 7.2.1. Justify your answer.

2. Let $X = S^1 \times [0, 1]$. Consider the twist map $f : X \rightarrow X$, $f(x, y) = (x + y, y)$.
 - (a) Describe all fixed points for f .
 - (b) Describe all periodic points for f .
 - (c) Explain why f is not topologically transitive.
 - (d) Show that f exhibits sensitive dependence on initial conditions.

Additional problem: p. 210 Exercise 7.2.3.