

## Additional HW problems for Chapter 10 for graduate students.

Required for graduate students, other students may attempt it but no credit will be given. Turn in separately from the textbook assignment.

1. Let two functions  $F$  and  $G$  be conjugated by a differentiable intertwining map  $H$ . We know that a fixed point of  $F$  is mapped to a fixed point of  $G$ . If fixed point of  $F$  is attracting (or repelling, or neutral), what can be said about corresponding fixed point of  $G$ ?
2. If  $F$  has an attracting (or repelling, or neutral)  $n$ -cycle, what can be said about corresponding  $n$ -cycle of  $G$ ?
3. Will your answer to part (1) be the same if  $H$  is a differentiable **semiconjugacy** between  $F$  and  $G$ ? Why/why not?