

WRITE YOUR NAME:

MAC 2241 Homework 3

Due in class, Friday February 17th

You can use more paper if necessary, but please STAPLE

Question 1. You **may** use a calculator or computer for this.
Suppose the sequence $\{a_n\}$ is defined recursively by

$$\begin{aligned} a_1 &= 0.5 \\ a_{n+1} &= 3.2a_n(1 - a_n) \quad \text{if } n \geq 1. \end{aligned}$$

- (i) Find the first ten terms of the sequence.
- (ii) Do you think $\lim_{n \rightarrow \infty} a_n$ exists? Why or why not?