

A) If  $f(x) = 2x(1-x)$

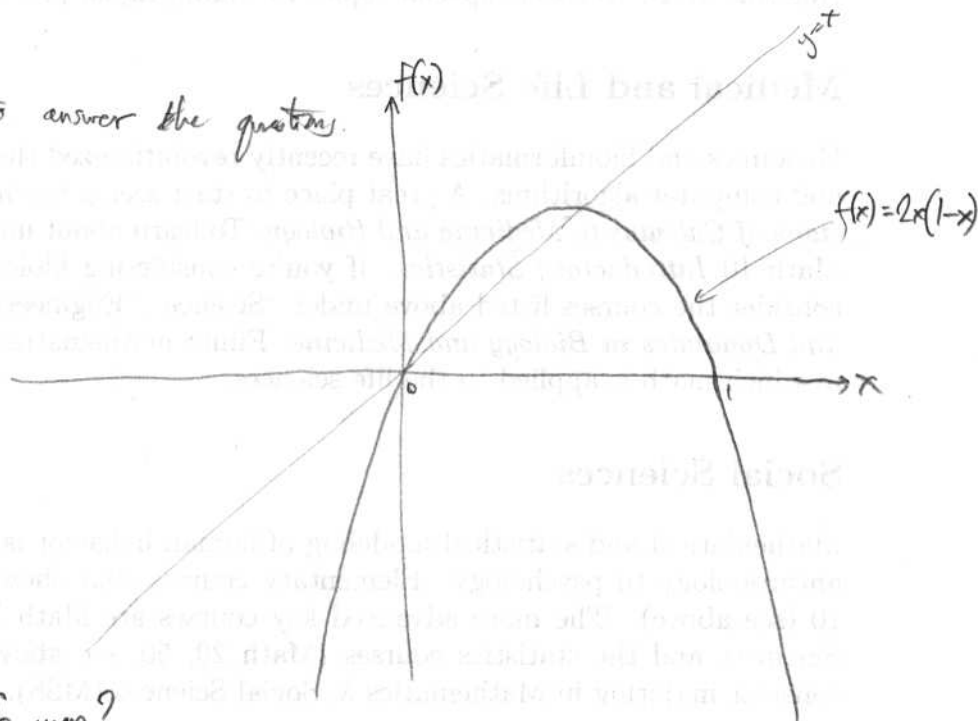
find  $f^2$ :

(simplify to a polynomial)

$f^3$ :

(don't bother to simplify!)  
Messy isn't it?

B) Sketch cobweb plots here to answer the questions.



i) Where are fixed point(s) of map?

ii) Say  $x_0 = 0.1$ , where does iteration take you?

Same for  $x_0 = -0.1$

$$x_0 = 0.9$$

$$x_0 = 1.1$$

iii) Which fixed point is attracting? repelling?

iv) Find the basin of the attracting fixed point, i.e. set of all  $x_0$  that have it as limit

v) Same for repelling fixed pt.

