WORKSHEET:

iteration & cobweb plot.

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THE VISION TO SELECT

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

(simplify to a you your in)

f3:

(don't bother to simplify!)

Messy But it?

B) Sketch where plots here to answer the quatrons of



and that add that extreme to the country of the diff of the transfer examine and how in Where are fixed point(s) of map?

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

Same for Xo = -0.1

X0 = 0.9

(ii) Which fixed point is altracting? repelling?

iv) Find the basin of the attracting fixed point, ie set of all x. that have it as limit

same for repelling fixed pt.

9/26/07 VORKSHEET: iteration & cobweb plot. - SOLUTIONS A) $f(x) = 2x(1-x) = 2(x-x^2)$ find $f^{2}(x) = 2(2(x-x^{2}) - 2^{2}(x-x^{2})^{2})$ (simplify to a yely warnin)) $= 4x - 4x^2 - 8x^2 + 16x^3 - 8x^4$ f3(x) = 4.2(x-x2) - 12.22(x-x2)2 + 16.23(x-x2)3 (den't bother to simplify!).

Messy isn't it? 8.24(x-x)4 yuh! B) Sketch cobord plots here to answer the quoting Where are fixed points) of map? When graph intersect yex, is where does retreation take you? approaches x=1/2
(repented!) Same for Xo = -0.) to Xo = 0.9 joins the orbit of 0.1, so -> x=1/2 xo = 1.1 Johns the orbit of -0.1, so iii) Which fixed point is altracting? repelling? x=0 iv) Find the basin of the attracting fixed point, ie set of all x. that have it as limit v) same for repelling fixed pt. {0, 19, just 2 point. The Sasin of Milits is (-00,0) U (1,00).