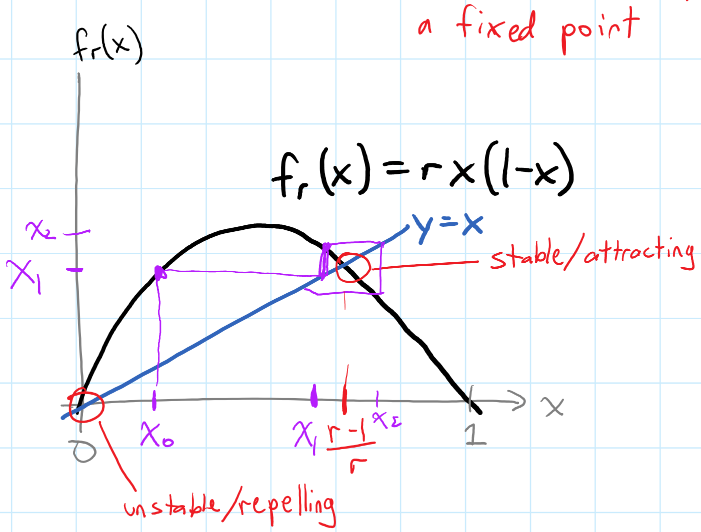
FIXED POINTS: x^* such that $x^* = f_r(x^*)$

$x^* = 0$ is always a fixed point



$x^* = r(x^*)(1-x^*)$

$1 = r(1-x^*)$ if $x^* \neq 0$

$1 = r - rx^*$

$rx^* = r-1$

$$\boxed{x^* = \frac{r-1}{r}}$$

Partial Summary:

$0 \le r \le 1$: one fixed point, $x^* = 0$

$1 < r < 3$: two fixed points

$3 < r < ?$: approaches a 2-cycle

$? < r < ?$: approaches a 4-cycle

$? < r < ?$: " 8-cycle