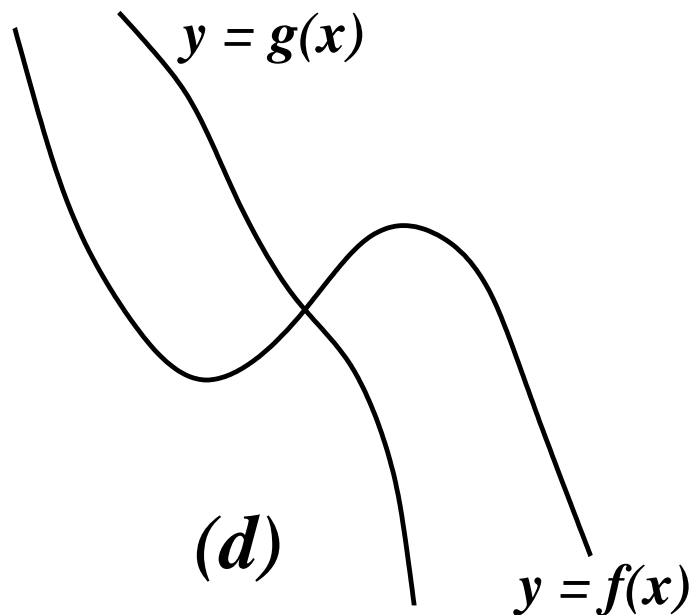
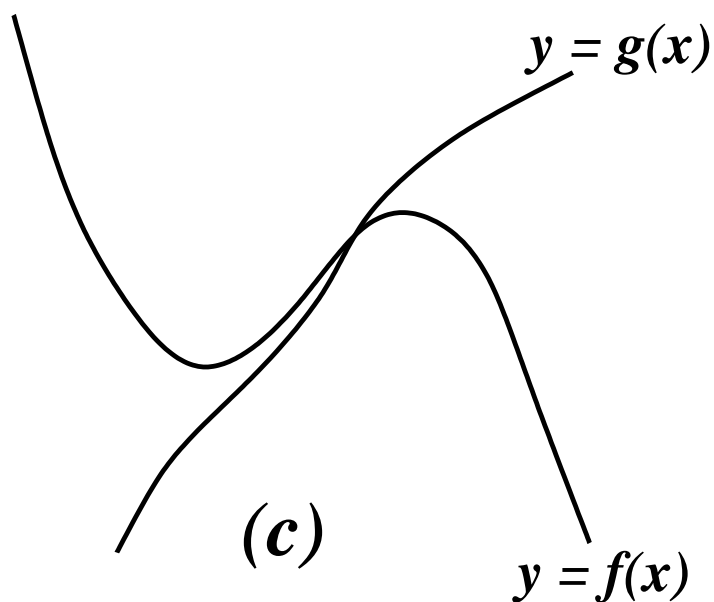
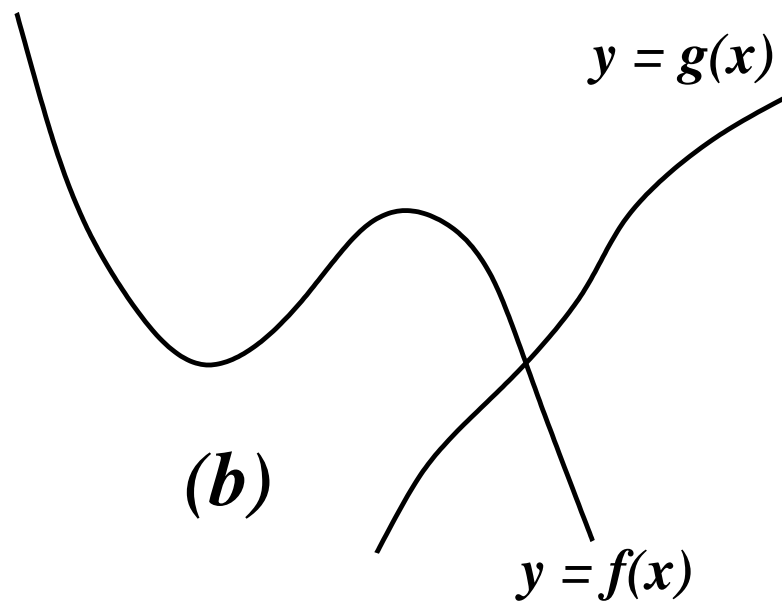
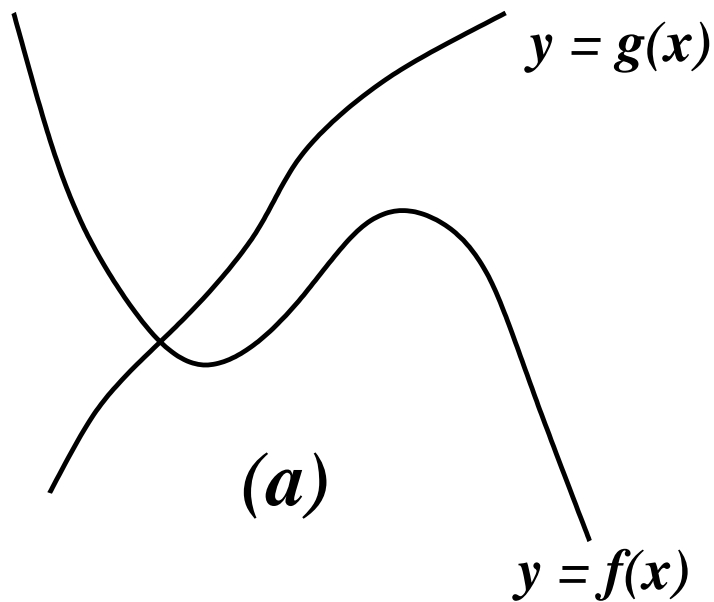


$$\frac{dx}{dt} = f(x) - y$$

$$\frac{dy}{dt} = \varepsilon (g(x) - y)$$

nullclines are $y=f(x)$ and $y=g(x)$; suppose like one of these:



question: what can you say about stability of the steady states?

draw directions of movement in each; use large or small arrows and use this info to sketch what trajectories will look like

suppose that we have the system (a) for times $t=0$ to $t=1$, but then there is a sudden switch to system (b) – what will typical $x(t), y(t)$ look like?