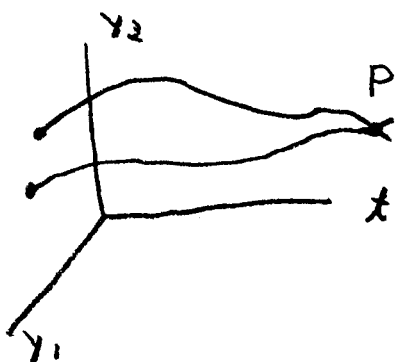


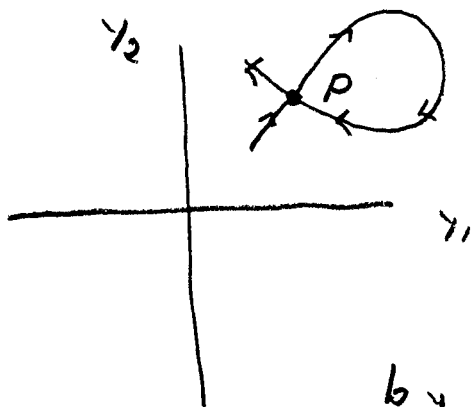
DLN 1.3.6

- a) Suppose two different trajectories cross. Then, in the case of 2 variables y_1 and y_2 (which is the only case we can draw), we have a picture like this:



But then there are two trajectories through the point P , which is forbidden by the uniqueness theorem.

- aa) Suppose a trajectory in \vec{y} space crosses itself in finite time. Then we have a picture like this:



But, since in the autonomous case the marching orders depend only on \vec{y} and not on t ,

by the uniqueness theorem there is only one trajectory through P no matter what time it is.