

MTH 351/651  
Quiz #3

1. Consider the following potential bifurcation diagram for a differential equation  $\dot{x} = f(x; \mu)$ , where stable or unstable fixed points are drawn as solid or dashed curves, respectively. For each diagram, circle all bifurcation points in the  $(\mu, x)$  plane and classify what type of bifurcation they are or argue why the bifurcation diagram is impossible.

