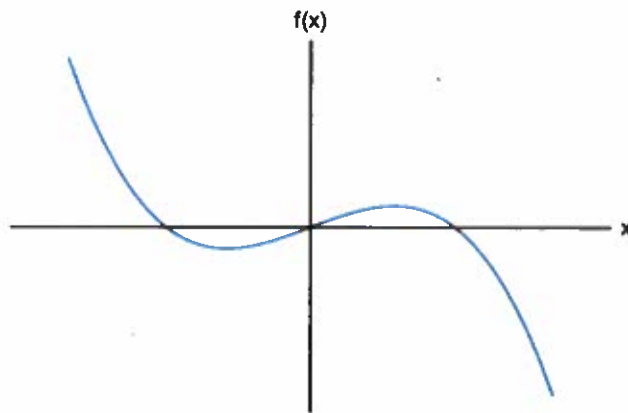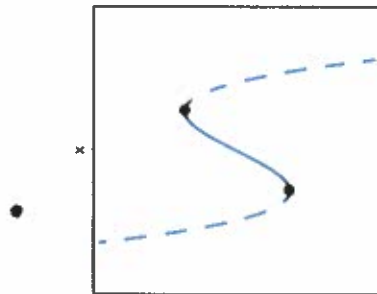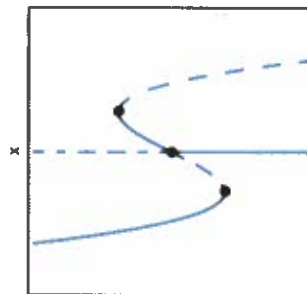**Problem 1.** Consider the function plotted below:

Match the following dynamical systems with their corresponding bifurcation diagrams plotted below.
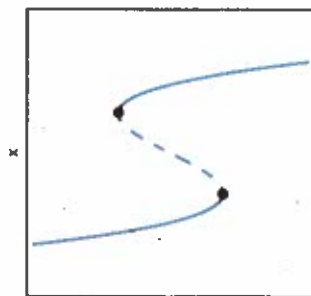
1. $\dot{x} = f(x) + \mu$ (c)
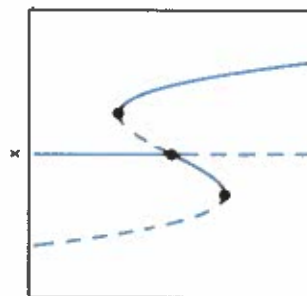
2. $\dot{x} = x(f(x) + \mu)$. (d)

(a)

(b)

(c)

(d)