

MTH 351/651
Quiz #6

1. Consider the system

$$\begin{aligned}\dot{x} &= v \\ \dot{v} &= -\frac{dV}{dx}\end{aligned}$$

where $V(x)$ is plotted below. **Note:** This is equivalent to the system $\ddot{x} = -\frac{dV}{dx}$.

- (a) Sketch a phase portrait for this system.
- (b) On your phase portrait label any homoclinic or heteroclinic orbits.

