HW #2

1. Goldstein Ch. 2, Ex. 10

2. Goldstein Ch. 2, Ex. 12

3. Goldstein Ch. 2, Ex. 18

4. A particle of mass $m$ moves in 1D s.t. its Lagrangian is given by

$$L = \frac{m^2 x^4}{12} + m x^2 V(x) - V^2(x),$$

where $V$ is a smooth function of $x$. Find EoM for $x(t)$ and interpret it in terms of the physical nature of the system.