[mex8] 2D Phase Portrait II

Consider the dynamical system characterized by the following equation of motion:

$$\ddot{x} - \dot{x} + x^2 - 2x = 0.$$

(a) Identify all fixed points in the plane $(x, \dot{x})$ and determine the type of each fixed point.
(b) Sketch the phase portrait of this dynamical system.

Solution: