Quiz 26

Name: _____

1. Find the equilibria of the following discrete dynamical system.

$$m_{t+1} = 0.5(m_t)^3$$

Setting $m^* = 0.5(m^*)^3$ we can factor:

$$0.5(m^*)^3 - m^* = 0$$
$$m^*(0.5(m^*)^2 - 1) = 0$$

Then this gives $m^* = 0$ and $(m^*)^2 = 2$, so you get three equilibria: $0, \sqrt{2}$, and $-\sqrt{2}$.