6.

We can see a pitchfork bifurcation as the parameter r_3 passes the value $\frac{16 r_1}{100^2} = \frac{16 \cdot 2.5}{100^2} = 0.004$ from * in question 5.

7.

With the deterministic description of the system, we found that the deterministic ODEs do not provide an exact description of the mean behaviour of the system. Moreover, with second-order (or higher-order) reductions, we do not obtain a closed evolution equation for the mean, we need to use moment closure to obtain an aproximate set of equation.

In paraddition, in systems with many favourable steady states SSA gives results which cannot be obtained from the deterministic model.