

Name: _____

Date: _____

MA 226 Quiz 6 – A

Please show your work.

1. (5 pts) Find the equilibrium points for the following system:

$$\frac{dx}{dt} = 2x \left(1 - \frac{x}{2} \right) - x \cdot y$$

$$\frac{dy}{dt} = 3y \left(1 - \frac{y}{3} \right) - 2x \cdot y$$

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2. (5 pts) Consider the system:

$$\frac{dx}{dt} = 2x + 2y$$

$$\frac{dy}{dt} = x + 3y$$

Determine if $\vec{Y}(t) = (x(t), y(t)) = (4e^t + e^{4t}, -2e^t + e^{4t})$ is a solution of the system.