

## Problem Set 8

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For the following autonomous ODEs, find all the equilibrium solutions and assess the stability of each. Use this information and points of inflection to sketch solutions of the differential equations.

1.  $y' = y$

2.  $y' = y^5 - y$

3.  $y' = 2y(1 - \frac{y}{100})$

4.  $y' = 3y(1 - \frac{y}{100})(\frac{y}{50} - 1)$

5.  $y' = e^y - 1$