

Autonomous Equations (2.5)

1. Find and classify all equilibrium points, draw a phase line, sketch solutions in the yt -plane, and determine whether each equilibrium point is stable, semistable, or unstable.

a. $y' = 9 - y^2$

b. $y' = y^2(1 - y)$

c. $y' = y \ln \left(y^2 + \frac{3}{4} \right)$