

# Differential Equations Homework 02

Your Name

## Problem 1(b)

The given ODE is  $y' = 2y - y^2$ . We need to sketch the direction field for  $-3 \leq t \leq 3$  and  $-3 \leq y \leq 3$ .

### Direction Field

The direction field is created by plotting small line segments with slope equal to  $y' = 2y - y^2$  at various points in the region. Below is the direction field with a solution passing through the point  $(0, 1)$ .

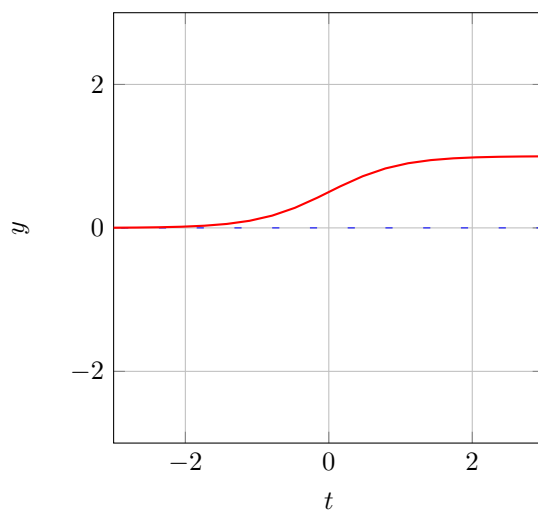


Figure 1: Direction field for  $y' = 2y - y^2$  and solution curve passing through  $(0, 1)$ .