

Problem 1

Solve each of the following initial value problems and plot the solutions for several values of y_0 . Then describe in a few words how the solutions resemble, and differ from, each other.

(a) $dy/dt = -y + 5, \quad y(0) = y_0$

(b) $dy/dt = -2y + 5, \quad y(0) = y_0$

(c) $dy/dt = -2y + 10, \quad y(0) = y_0$