

# DUE: 01 March 2011

Please answer these questions on a separate piece of paper.  
To receive full credit, you must show your work!!!

1. For each question below:

A. draw the slope field using a range and domain of -3 to 3

B. describe briefly the behavior of the solution with  $y(0) = \frac{1}{2}$  as  $t$  increases

(i)  $\frac{dy}{dt} = 3y(1 - y)$

(iii)  $\frac{dy}{dt} = (y + \frac{1}{2})(y + t)$

(ii)  $\frac{dy}{dt} = 2 - t$

(iv)  $\frac{dy}{dt} = (t + 1)y$