

Quiz #4

Name: Key

*You must show your work to get full credit.*

For the rate equation

$$y' = -.2y(y - 2)(y - 4)$$

(1) Find the equilibrium points.

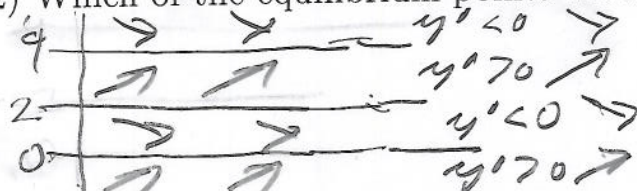
0, 2, 4

Solve

$$-.2y(y-2)(y-4) = 0$$

(2) Which of the equilibrium points are stable?

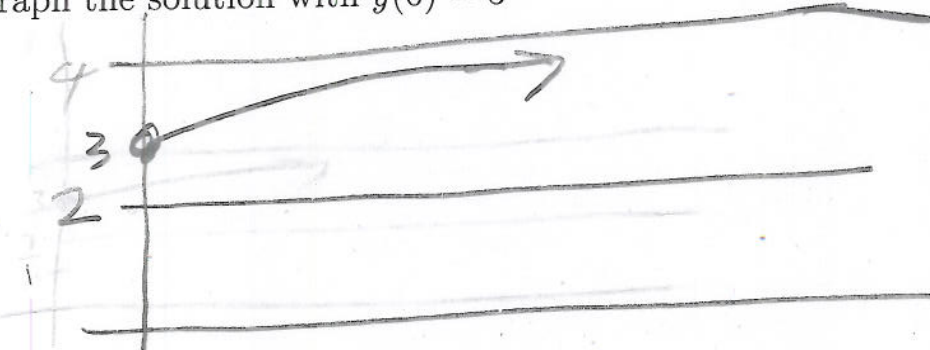
0, 4



(3) Which of the equilibrium points are unstable?

2

(4) Graph the solution with  $y(0) = 3$



(5) If  $y$  is the solution with  $y(0) = 3$ , what is a good estimate of  $y(1,000)$ ?

$y(1,000) \approx$  4