

You must show your work to get full credit.

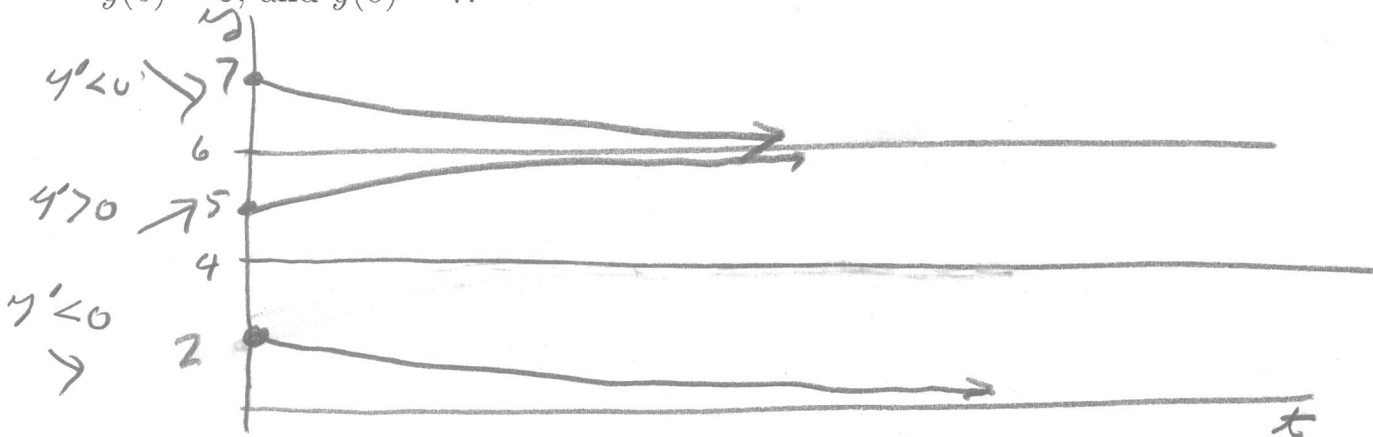
Consider the differential equation

$$\frac{dy}{dt} = -2y(y-4)(y-6)$$

1. What are the constant solutions?

The constant solutions are $y=0, y=4, y=6$
 solve $-2y(y-4)(y-6)=0$ to get $y=0, 4, 6$

2. Graph a graph showing the constant solutions and the solutions with $y(0) = 2$, $y(0) = 5$, and $y(0) = 7$.



3. Estimate the following:

(a) $y(200)$ for the solution with $y(0) = 2$.

$y(200) \approx$ 0

(b) $y(432)$ for the solution with $y(0) = 5$.

$y(432) \approx$ 6

(c) $y(78)$ for the solution with $y(0) = 7$.

$y(78) \approx$ 6