

Integrating Factors

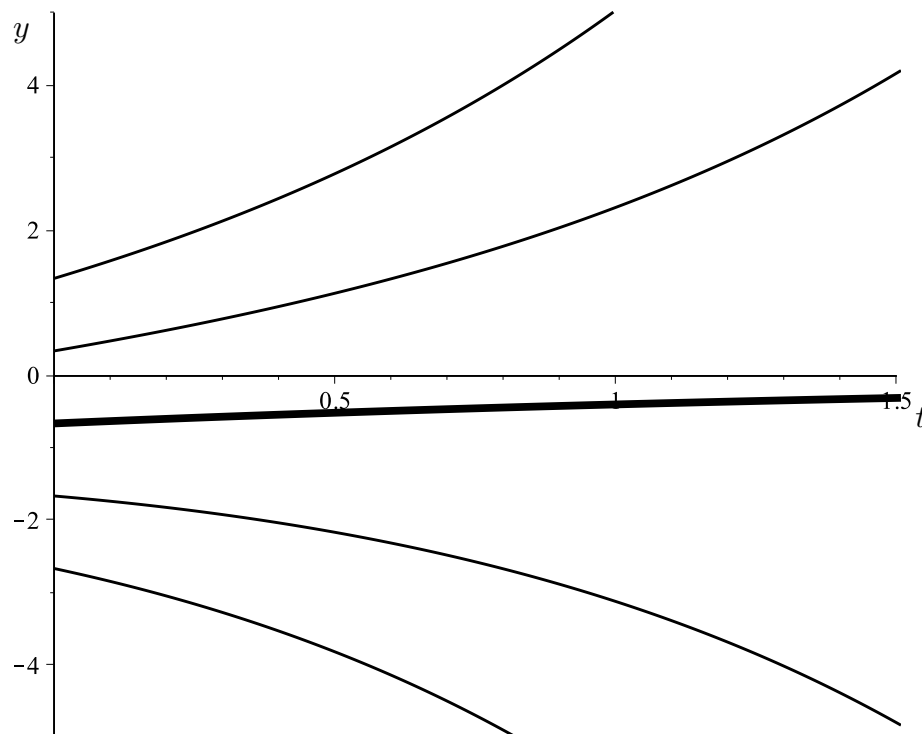
In class we found that the solution to the equation

$$\dot{y} - y = e^{-t/2}$$

is

$$y(t) = Ce^t - \frac{2e^{-t/2}}{3}. \quad (1)$$

Here are some integral curves of the solution.



Graphs of (1) for $C = 0$ (equilibrium solution, dark line), ± 1 , and ± 2 .

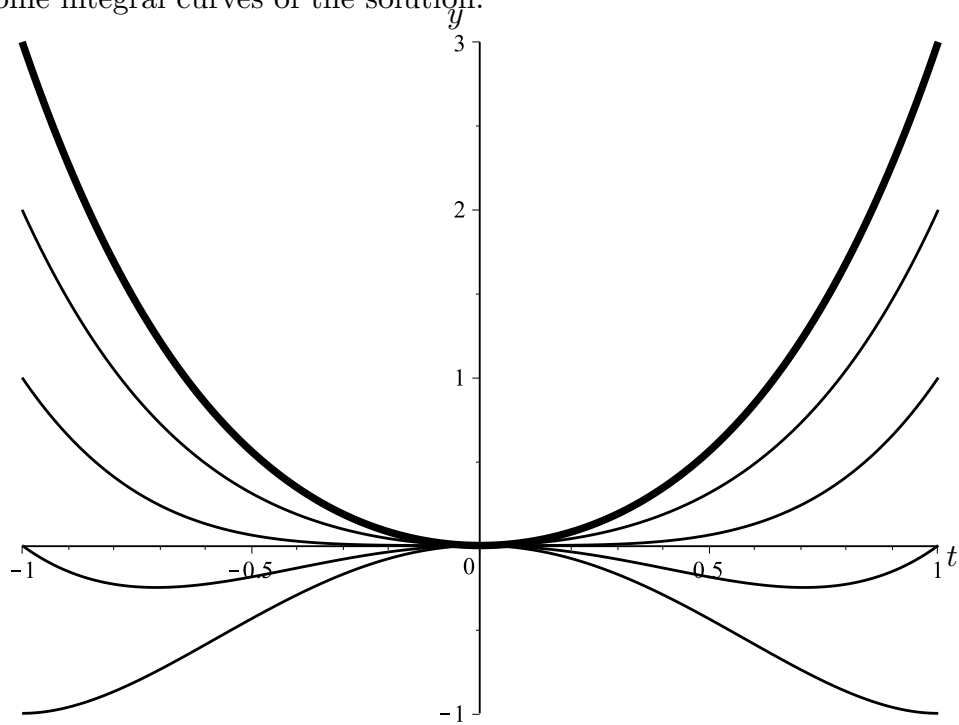
In class we found that the solution to the equation

$$\dot{y} - \frac{2}{t}y = 2t^3$$

is

$$y(t) = t^4 + Ct^2. \quad (2)$$

Here are some integral curves of the solution.



Graphs of (2) for $C = 0, \pm 1$, and -2 , and 2 (dark line).

