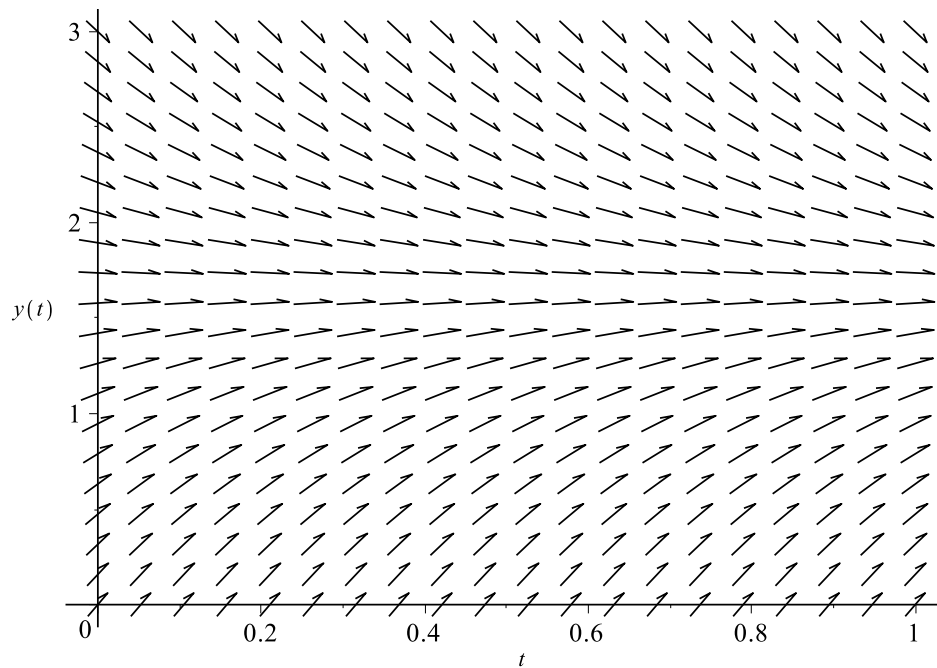


Direction Fields

In class, we considered the equation

$$\dot{y} + 3y = 5. \tag{1}$$

Here is the direction field for this equation.



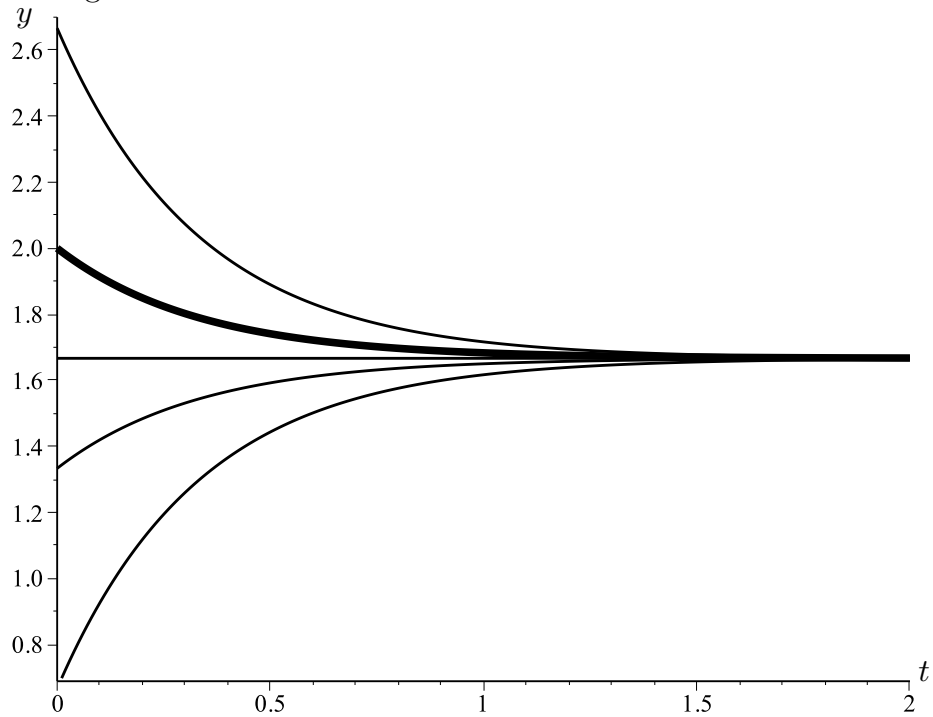
Direction field for (1).

Note that the direction field approaches the equilibrium solution $y = 5/3$.

The solution to (1) is given by

$$y(t) = Be^{-3t} + \frac{5}{3}. \quad (2)$$

Here are some integral curves of the solution.



Graphs of (2) for $B = -1, -1/3, 0, 1/3$ (thick curve), and 1.

