

## Slope fields

Consider the equation

$$y' = 3y - 1.$$

Without solving, determine which of the following statements is false.

- A.  $y = \frac{1}{3}$  is an equilibrium solution.
- B. The slope field is constant on horizontal lines.
- C. Every solution converges to  $1/3$  as  $t \rightarrow \infty$ .

# Know your first-order ODE

Which of the following statements is true?

- A.  $3y' - 2y = e^{-\frac{\pi t}{2}}$  is first-order, not linear.
- B.  $ty' = y$  is both linear and separable.
- C.  $e^{y'} = t^2 + 1$  is not of first-order.
- D. Any first-order ODE must either be linear or variable-separated.