

# Euler's Method

The fact that solutions exist doesn't tell us anything about how to find them. There are also many differential equations that we don't know how to solve. The main solution to this is numerical methods. These allow us to numerically approximate the solution to a differential equation without needing to know the solution analytically.

The standard (and easiest) way to numerically solve differential equations is Euler's Method.

## Method

Assume that we have a differential equation  $y' = f(t, y)$ . How do we approximate the solution by Euler's Method?