

Name

- $$\begin{aligned} m' &= \alpha m - \beta m w \\ w' &= -\gamma w + \delta m w \end{aligned}$$
 for moose (m) and wolves (w). Plot the predictions of your model.

1. Estimate birth and death rates for rabbits then write down and solve a simple ODE modeling an initially small population of rabbits $r(t)$ on a lush fertile island. Discuss the results.

■ Solve $y' = 2y + e^t$ $y(0) = 1$

2. Solve $y' + 2ty = te^{-t^2}$