

Quiz 7  
2/27/2025

Suppose a population  $P$  satisfies

$$\frac{dP}{dt} = 0.1P - 0.0001P^2, \quad P(0) = 60$$

where  $t$  is measured in years.

(a) Find the birth rate and carrying capacity.

(b) Find the solution  $P(t)$  to the problem.

(c) When will the population reach 30% of the carrying capacity?