

1. Assuming $P > 0$, suppose a population develops according to the logistic equation

$$\frac{dP}{dt} = 0.03P - 0.00015P^2 \text{ where } t \text{ is measured in weeks.}$$

- What is the carrying capacity?
- What is the value of the intrinsic growth constant k ?
- For what values of P is the population increasing?
- Suppose the initial population is 150 critters. Write an expression for $P(t)$.

2. Use Euler's method with step size 0.25 to compute the approximate y -values y_1 , y_2 and y_3 of the solution of the initial-value problem $y' = 1 - 2x - 2y$, $y(1) = -1$.