Q3P2

This assignment was locked Apr 23 at 2:18pm.

Consider $\frac{dN_1}{dt} = p - \lambda_1 N_1$, $\frac{dN_2}{dt} = \lambda_1 N_1 - \lambda_2 N_2$,

where p, λ_1, λ_2 are positive constants.

Given $N_1(0) = N_2(0) = 0$,

(a) find $N_1(t), N_2(t)$ for $t > 0$ (40 points) and

(b) justify the limiting values of N_1, N_2 as $t \to \infty$ (10 points)