

Opgave 8.4.45

Drug epidemic In an epidemiological model used to study the spread of drug use, a single drug user is introduced into a population of N non-users. Under certain assumptions, the number of people expected to use drugs as a result of direct influence from each drug user is given by

$$S = N \int_0^{\infty} \frac{a(1 - e^{-kt})}{k} e^{-bt} dt$$

where a , b , and k are constants. Find the value of S . Source: Mathematical Biology.

— s. 505