$$\lim_{n\to\infty}\left(1+\frac{1}{n}\right)^n = e \tag{1}$$

$$\frac{dx}{dt} = rx \iff x(t) = Ce^{rt} \tag{2}$$

$$x(t) = x_0 e^{pt} = x_0 \lim_{n->\infty}\left(1+\frac{p}{n}\right)^{nt} \tag{3}$$

$$\begin{cases} D = \alpha - \beta P \\ S = \gamma - \delta P \end{cases}$$