

Imp Formulas

n^{th} order

$$k_n(t) = \frac{1}{(n-1)} \left[\frac{1}{(a-x)^{n-1}} - \frac{1}{(a)^{n-1}} \right] \quad n \neq 1$$

for $(t_{1/2})_n$ $x = \frac{a}{2}$

$$t_{1/2} = \frac{2^{n-1} - 1}{(n-1) (a)^{n-1} k}$$

for 1st order
 $n=1$

$$k t = \ln \left[\frac{A_0}{A_0 - x} \right]$$

$$t_{1/2} = \frac{\ln(2)}{k}$$