Integrated rate laws

rate = k **0 order** $[A]_t = -kt + [A]_0$

rate = k[A] **1st order** $\ln [A]_t = -kt + \ln [A]_0$

rate = $k[A]^2$ **2nd order** $\frac{1}{[A]_t} = kt + \frac{1}{[A]_0}$

$y = \frac{1}{[A]_t}$ $x = t$

$y = mx + b$

$m = k$

$b = \frac{1}{[A]_0}$

A plot of $1/[A]_t$ v.s. t is linear