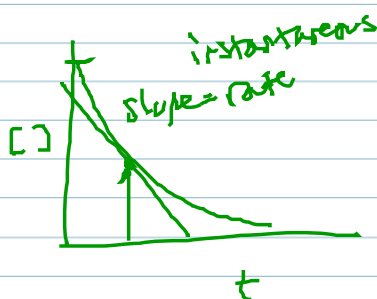
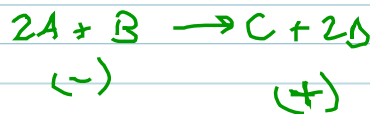


KINETICS graphs, tables, UNITS



"relative" rate
* COEFFICIENTS



rate laws

$$\text{rate} = k[A]^m[B]^n$$

orders

M (less than) inverse order

time⁻¹

M S⁻¹ n M S⁻¹ n M S⁻¹

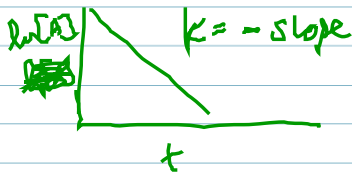
units L⁻¹ S⁻¹

INTEGRATED RATE LAWS



FIRST ORDER

rate = k[A]

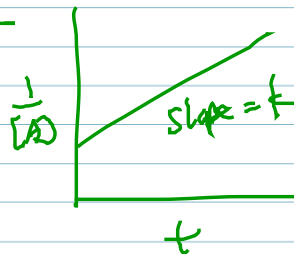


* radioactive decay

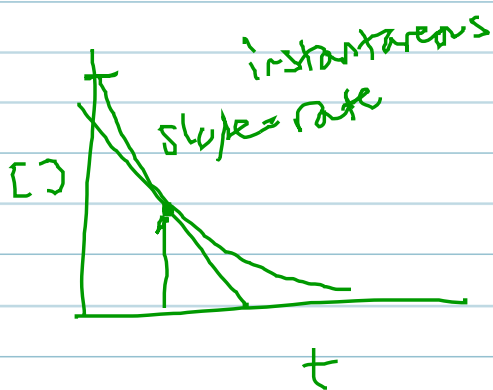
$$t_{1/2} = \frac{0.693}{k}$$

SECOND ORDER

rate = k[A]²



KINETICS graphs, tables, UNITS



"relative" rate

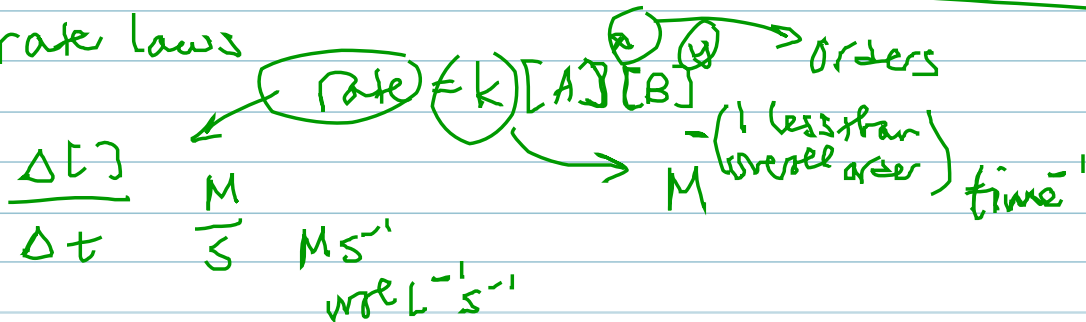
* COEFFICIENTS



(-)

(+)

rate laws

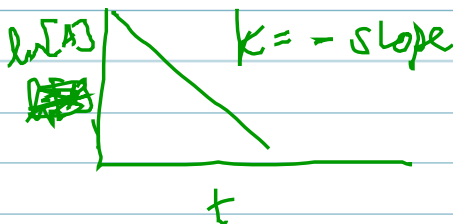


INTEGRATED RATE LAWS



first order

rate = $k[A]$

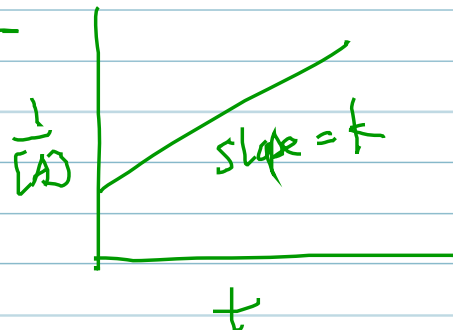


* radioactive decay

$t_{1/2} = \frac{0.693}{k}$

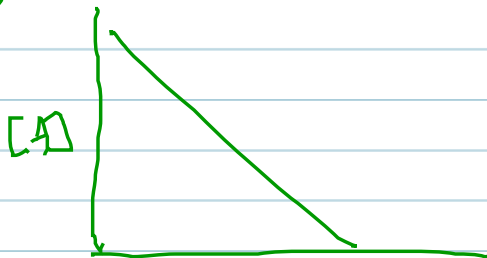
SECOND ORDER

rate = $k[A]^2$



ZERO ORDER

$$rate = k[A]^0$$



+

ARRHENIUS

$$\ln k = \frac{-E_a}{R} \left(\frac{1}{T} \right) + \ln A$$

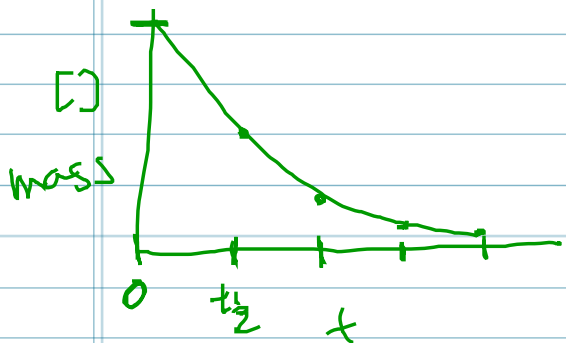
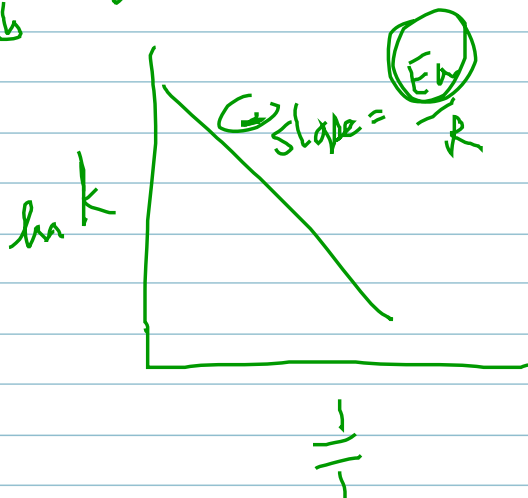
freq. factor

$$y = mx + b$$

HALF LIFE

TIME

first order $t_{1/2} = \frac{0.693}{k}$



SECOND ORDER

$$t_{1/2} = \frac{1}{k[A]_0}$$

