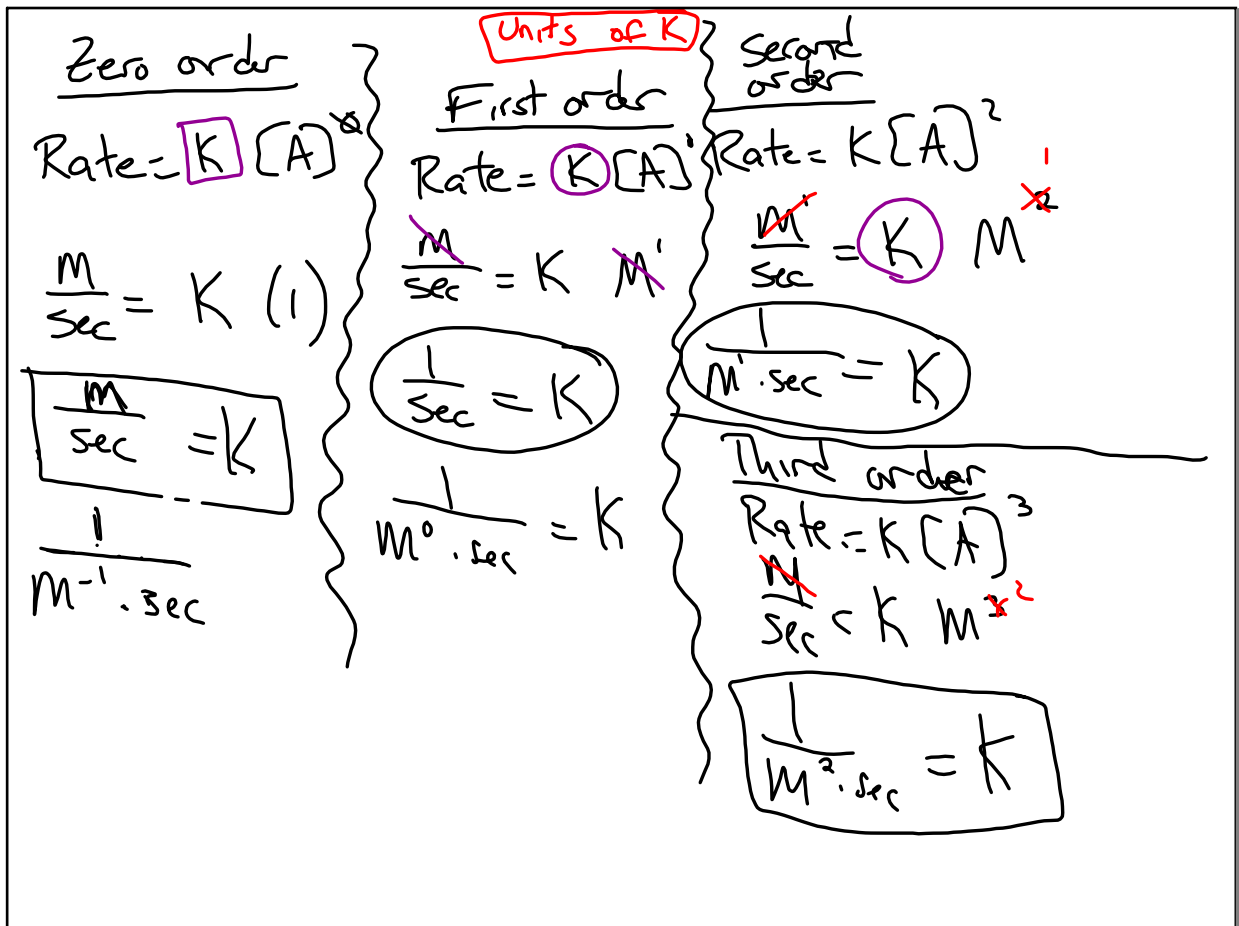
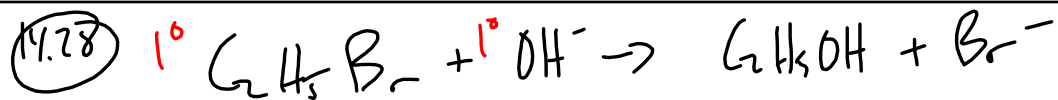


Feb 5-7:21 AM



Feb 5-7:40 AM



$$\text{Rate} = k [\text{C}_2\text{H}_5\text{Br}]^1 [\text{OH}^-]^1$$

$$1.7 \times 10^{-7} = k (0.0477)^1 (0.1)$$

Feb 5-7:49 AM

(14.31)

⑨

$$\text{Rate} = k [\text{BF}_3]^1 [\text{NH}_3]^1$$

BF₃
3 → 4
5 - 4

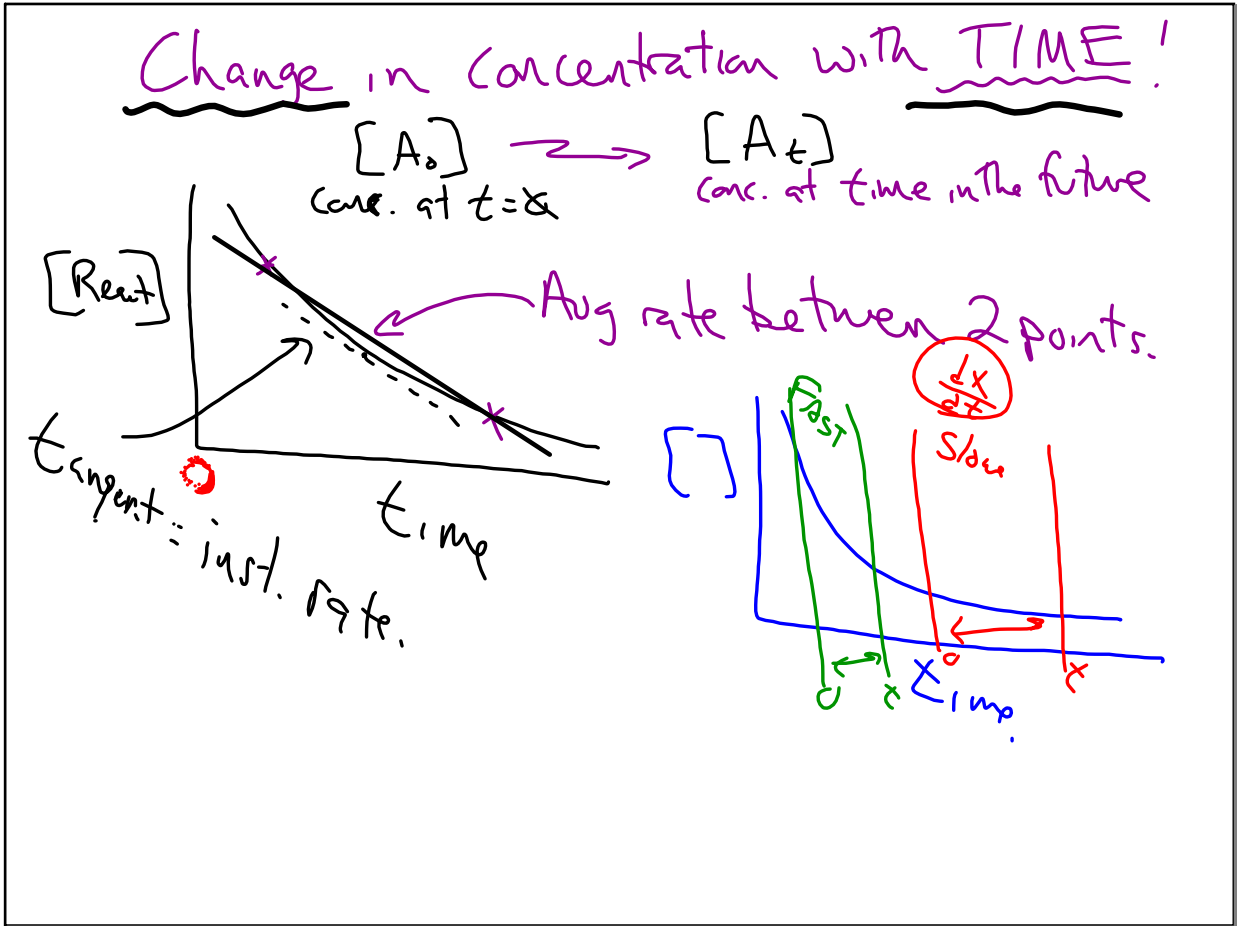
$$1.75^{\boxed{1}} = 1.75 \quad \left. \begin{array}{l} 2^{-71} \\ 2^{\textcircled{1}} \end{array} \right\} = 2$$

$$2^{\textcircled{1}} = 2 \quad \left. \begin{array}{l} 2^{-71} \\ 2^{\textcircled{1}} \end{array} \right\} = 2$$

$$0.2130 = k (0.25)^1 (0.25)^1$$

$$k = 3.408 \frac{1}{\text{M} \cdot \text{sec}}$$

Feb 5-7:52 AM



Feb 5-8:01 AM

First order

$$\ln[A_t] = -Kt + \ln[A_0]$$

$y = mx + b$

Second order

$$\frac{1}{A_t} = Kt + \frac{1}{A_0}$$

"A" Half Life: time for 1/2 original concentration.

$\frac{1}{2}[A_0] = [A_t]$

$1^{\circ} \Rightarrow t_{1/2} = \frac{0.693}{K}$

$2^{\circ} \Rightarrow t_{1/2} = \frac{1}{K[A_0]}$

Feb 5-8:24 AM

$$\ln A_t = -Kt + \ln A_0$$

$$\ln A_t - \ln A_0 = -Kt \quad (t_{1/2})$$

$$\ln \frac{A_t}{A_0} = -Kt \quad (HALF LIFE)$$

$$\ln \frac{1/2 A_0}{A_0} = -Kt_{1/2} \quad A_t = 1/2 A_0$$

$$\ln 1/2 = -K t_{1/2}$$

$$-0.693 = -K t_{1/2}$$

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

Feb 5-8:28 AM

$$\ln A_t = -Kt + \ln A_0$$

$$\ln 1/2 A_0 = -Kt + \ln A_0$$

$$\ln 1/2 + \ln A_0 = -Kt + \ln A_0$$

$$-0.693 = -Kt$$

$$t = \frac{0.693}{K}$$

Feb 5-8:31 AM

2^o $\frac{1}{A_t} = kt + \frac{1}{A_0}$ } $\frac{1}{2}A_0 = A_t$
 $t_{1/2}$

$\frac{1}{\frac{1}{2}A_0} = k t_{1/2} + \frac{1}{A_0}$

$\frac{2}{A_0} = k t_{1/2} + \frac{1}{A_0}$

$-\frac{1}{A_0} \quad -\frac{1}{A_0}$

$\frac{1}{A_0} = k t_{1/2}$

$t_{1/2} = \frac{1}{k[A_0]}$

Feb 5-8:34 AM

Ex 1^o, $k = 1.45 \text{ yr}^{-1}$ 12^oC

$1.45 \frac{1}{\text{yr}}$ same units of TIME

$1.45 \frac{1}{\text{M} \cdot \text{yr}}$

$\ln A_t = -kt + \ln A_0$

$\ln A_t = (-1.45)(1) + \ln(5 \times 10^{-7})$

$\ln A_t = -15.96$

$6/1/38 \ 5 \times 10^{-7} \text{ g/cm}^3$ $6/1/19 \ A_t = ?$

$1.17 \times 10^{-7} \text{ g/cm}^3$

1 yr.

Feb 5-8:38 AM

$$14 / 38 + 40$$

Feb 5-8:46 AM