15.22 $K_p = \sqrt{0.0752} = 0.274$ K_p

$Cl_{2(g)} + H_2O_{(g)} \rightleftharpoons 2HCl_{(g)} + \frac{1}{2}O_{2(g)}$

$\Delta n = 2\frac{1}{2} - 2 = \frac{1}{2}$

$PV = nRT$

$P = \frac{n}{V}RT$

$K_p = K_c(RT)^{\Delta n}$

$K_c = \frac{K_p}{(RT)^{\Delta n}} = \frac{0.274}{(0.08206)(753)^{1/2}}$

$= 0.035$

Feb 10-9:35 AM

15.42 $I_{2(g)} \rightleftharpoons 2I_{(g)}$ 800K

$K_c = 3.1 * 10^{-5}$

? g 2.67×10^{-2} g

10 L

$K_c = \frac{[I]^2}{[I_2]}$

g → Moles → $\frac{\text{Moles}}{\ell}$

$\frac{[I_2]}{1} = \frac{[I]^2}{K_c}$

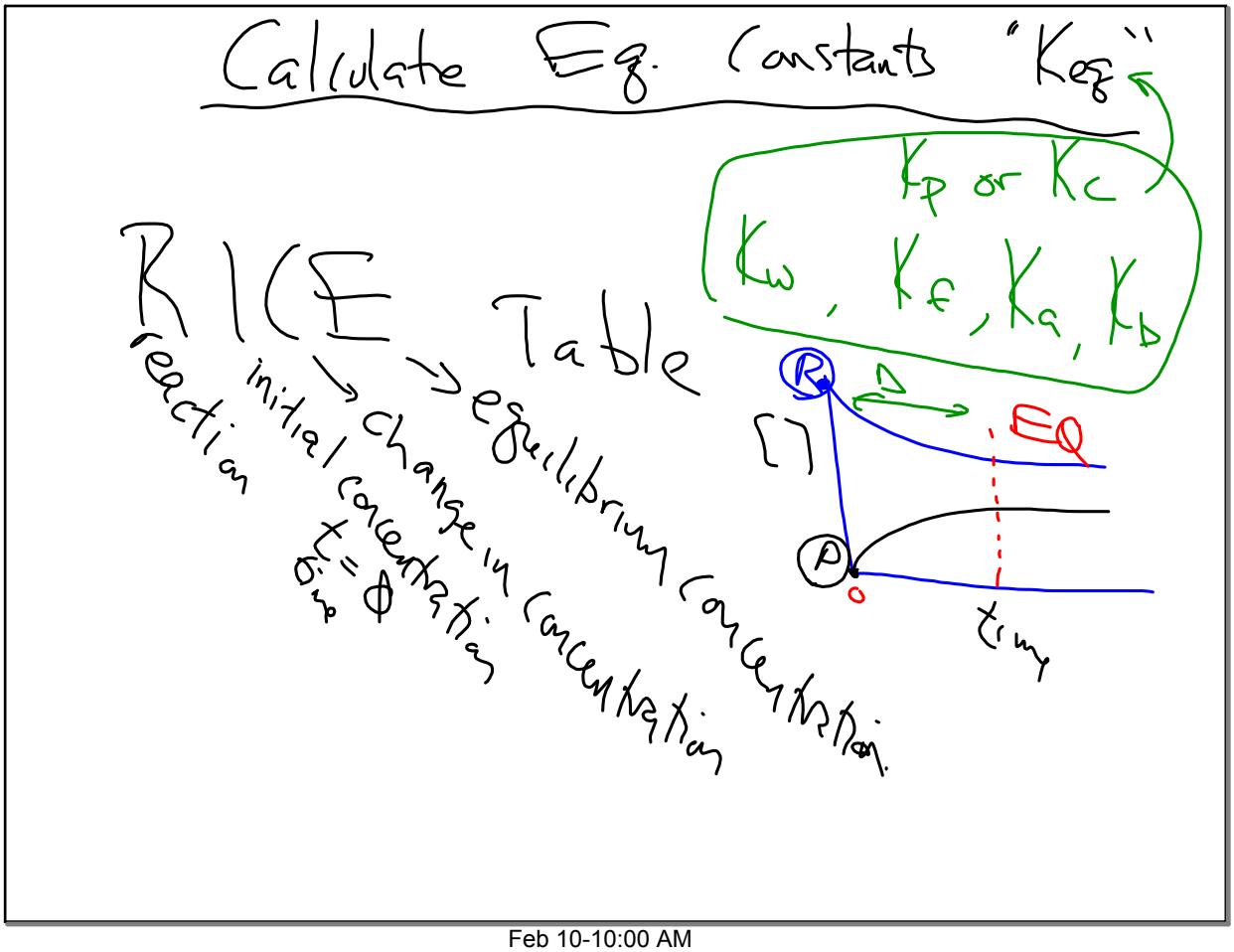
$[I_2] = M$

$\frac{\text{mole}}{\ell}$

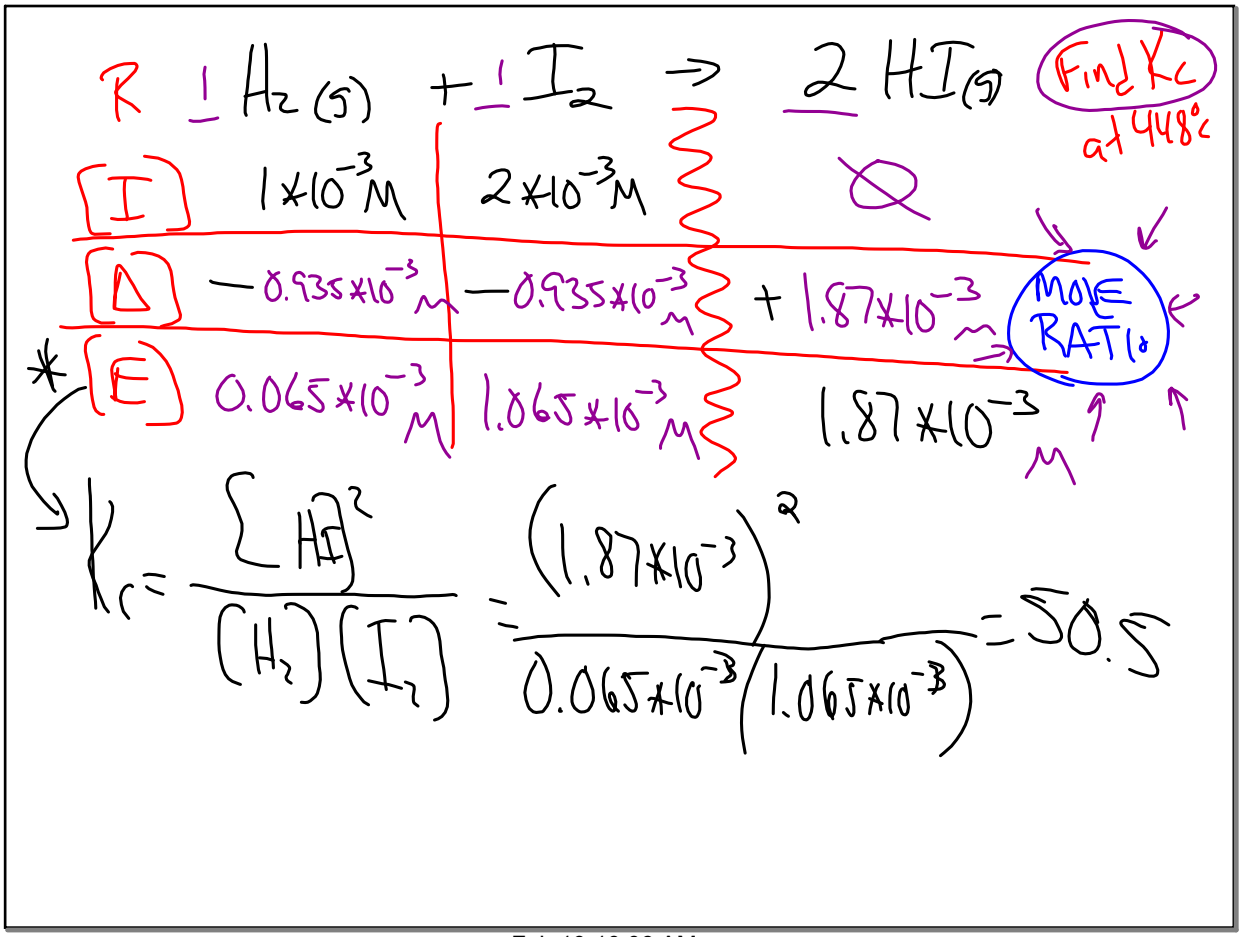
$M * \ell \rightarrow$ Moles I_2

Mole $I_2 \rightarrow$ g I_2

Feb 10-9:53 AM



Feb 10-10:00 AM



Feb 10-10:06 AM

$2SO_{3(g)} \rightleftharpoons 2SO_{2(g)} + O_{2(g)}$

	$2SO_{3(g)}$	$\rightleftharpoons$	$2SO_{2(g)}$	$+ O_{2(g)}$
I	0.5		Ø	Ø
Δ	− 0.3		+ 0.3	+ 0.15
E	0.2		0.3	0.15

$$K_p = \frac{(SO_2)^2(O_2)}{(SO_3)^2} = \frac{(0.3)^2(0.15)}{(0.2)^2} = 0.338$$

Feb 10-10:28 AM

$H_2 + I_2 \rightleftharpoons 2HI$ 448°C $K_c = 50.5$

	1	2		
I	1	2		Ø
Δ	−x	−x		+2x
E	1−x	2−x		2x

MOLE RATIO Find [E]

$$K_c = \frac{(HI)^2}{(H_2)(I_2)} = \frac{50.5}{1} = \frac{(2x)^2}{(1-x)(2-x)}$$

$$\frac{50.5}{1} = \frac{4x^2}{x^2 - 3x + 2}$$

$$4x^2 = 50.5x^2 - 151.5x + 101$$

$$-4x^2 \quad -4x^2$$

$$46.5x^2 - 151.5x + 101 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Feb 10-10:38 AM

15/ 44, 46, 50

$CaCrO_{4(s)}$

Feb 10-10:46 AM